

**US Army Corps
of Engineers®**
Buffalo District

RECORD OF DECISION

FOR THE LINDE SITE

TONAWANDA, NEW YORK

MARCH 2000

APPENDIX A

RESPONSIVENESS SUMMARY

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LINDE SITE - RECORD OF DECISION
APPENDIX A
Responsiveness Summary
for the Proposed Plan
for the Linde Site
Tonawanda, New York

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Attachment 4	Dennis A. Conroy Comments – April 16, 1999
Attachment 5	Richard M. Tobe Comments – April 20, 1999
Attachment 6	John J. LaFalce Comments – April 22, 1999
Attachment 7	Mr. & Mrs. Raymond Chapman – April 28, 1999
Attachment 8	Paul J. Merges Comments – April 30, 1999
Attachment 9	Dennis A. Conroy Comments – June 10, 1999
Attachment 10	Leonore Lambert Comments – June 10, 1999
Attachment 11	Maureen Leary Comments – June 11, 1999

1. INTRODUCTION

On March 26, 1999, Buffalo District, United States Army Corps of Engineers (USACE) issued a Proposed Plan (PP) for the proposed cleanup of the Linde Site in Tonawanda, New York. Public meetings were held on April 22, 1999 and June 3, 1999 during which the USACE presented background information and its recommended cleanup strategy for the Site. During these meetings, the public was invited to submit comments and written comments were accepted through June 11, 1999. This Responsiveness Summary addresses the comments received from the public during the public meetings and the comment period.

The preferred cleanup remedy for this site, as presented in the PP, is Alternative 4, which is described on page 13 of the PP. This alternative meets the commitments made to community representatives, is fully protective of human health and the environment, complies with all applicable or relevant and appropriate laws and regulations, and provides the best balance among the alternatives that were evaluated for this site.

2. OVERVIEW OF PUBLIC INVOLVEMENT

Summary of Community Relations Activities for the Release of the Proposed Plan for the Linde Site

Before the start of the PP comment period, a news release was issued to the local newspaper media on March 26, 1999 announcing the release of the plan and the comment period dates. Legal advertisements were placed in the Buffalo News (March 28, 1999), the Tonawanda News (March 31, 1999) The Ken-Ton Bee (March 31, 1999), the Kenmore Record Advertiser (March 31, 1999) and the Niagara Gazette (March 28, 1999). A total of 858 letters announcing the availability of the plan and the comment period were mailed on March 26 to the community members on the site mailing list.

Invitations were sent on April 8 to parties on the site mailing list for the first public meeting scheduled for April 22, 1999 encouraging attendance and comments. A news release was faxed to the local newspapers on April 8, 1999. Legal ads were placed in the Buffalo News (April 18, 1999), the Tonawanda News (April 12, 1999), the Ken-Ton Bee (April 14, 1999), the Kenmore Record Advertiser (April 14, 1999), and the Niagara Gazette (April 18, 1999). Copies of the news release, letters of invitation, ads, and the PP were placed in the Administrative Record File for the Linde Site. The news release and the PP were also available on the Buffalo District website.

The first public meeting was held on April 22, 1999 from 7 p.m. to 9 p.m. in the Holmes Elementary School Auditorium adjacent to the Linde Site. The following fact sheets were available at the meeting: Linde Site, Environmental Glossary, Risk Assessment, Material Flow at FUSRAP Sites, CERCLA-Superfund, CERCLA Process, How Big is a Picocurie?, Radiation, Radiation in the Environment, Radiation at FUSRAP Sites, and Radioactivity in Common Products. Copies of the proposed plan were also available as handouts at the meeting.

Forty-four members of the public signed in at the April 22, 1999 meeting. A court reporter was available at the meeting to record comments. At the meeting, USACE explained the history of the site, studies and investigations completed, areas of contamination, CERCLA evaluation criteria, the remedial action alternatives, and the schedule. Twelve formal comments were made at the meeting. Copies of the

transcript were placed in the Administrative Record File and made available on the Buffalo District website.

At the April 22, 1999 public meeting it was announced that the comment period was extended until May 27, 1999.

Postcards announcing the comment period extension were sent to the mailing list and ads were placed in The Buffalo News (May 2, 1999), the Tonawanda News (May 3, 1999), The Ken-Ton Bee (May 5, 1999), the Kenmore-Record Advertiser (May 5, 1999), and the Niagara Gazette (May 2, 1999).

On May 21, 1999, a news release announcing the June 3, 1999 public meeting and a further extension of the public comment period through June 11, 1999 was issued to the local newspaper media and placed on the Buffalo District website. Letters of invitation for the June 3 public meeting were sent to the 858 member community mailing list. Legal display advertisements were placed in The Buffalo News (May 23, 1999), The Tonawanda News (May 24, 1999), The Ken-Ton Bee (May 26, 1999), The Kenmore Record-Advertiser (May 26, 1999), and the Niagara Gazette (May 30, 1999).

Forty-three members of the public signed in at the June 3, 1999 public meeting. A court reporter was available at the meeting to record comments. At the meeting, USACE explained the history of the site, the remedial action alternatives, the cleanup criteria, the post-remedial modeling results, the quality assurance process and the schedule. The following fact sheets were available at the meeting: Linde Site, Linde Site Glossary, Risk Assessment, Material Flow at FUSRAP Sites, CERCLA-Superfund, CERCLA Process, How big is a Picocurie?, Radiation, Radiation in the Environment, Radiation at FUSRAP Sites, , and Radioactivity in Common Products. Copies of the proposed plan and the presentation were also available as handouts at the meeting. Thirteen formal comments were made at the meeting. The transcript was placed in the Administrative Record File and on the Buffalo District website.

After the Record of Decision for the Ashland 1, Ashland 2, and Seaway Area D Sites was signed, a separate Linde Site Administrative Record File was established. The Administrative Record File was placed in the Tonawanda Public Library, 333 Main Street, Tonawanda, New York, and at the USACE FUSRAP Public Information Center, 1776 Niagara Street, Buffalo, New York.

3. SCOPE AND ORGANIZATION OF THE RESPONSIVENESS SUMMARY

Nine (9) sets of written comments were received during the comment period, as well as comments received during the public meetings.

To provide a more descriptive response to the comments received on the PP, the comments were grouped under key subject areas (if possible) and generic responses were prepared to cover each comment group. These subject areas with corresponding Generic Comment Response IDs include:

Generic Comment

Response ID

Comment Subject Area

(A)	Support for PP
(B)	Extension of public comment period
(C)	Residual uranium concentrations and future land use
(D)	Disposition of Building 14
(E)	Need for groundwater remediation
(F)	Consideration of applicable or relevant and appropriate requirements (ARARs)
(G)	State and community acceptance
(H)	Need for independent verification contractor (IVC)
(I)	Other Sites/Potential Sites

Section 4 presents these generic responses. Section 5 provides responses to specific comments contained in the comment documents, included as Attachments 1 through 11.

USACE encourages those interested in learning more about the Linde Site or other FUSRAP projects to review the Administrative Record File (which contains reports and other information), or call USACE's toll free number (1-800-833-6390) to ask questions or to be added to the mailing list for future mailings. The Administrative Record File for the Linde Site is available for public review at the following locations:

U.S. Army Corps of Engineers
Public Information Center
1776 Niagara Street
Buffalo, New York 14207-3199

Tonawanda Public Library
333 Main Street
Tonawanda, New York 14150

4. GENERIC COMMENTS AND GENERIC RESPONSES

The format used to address each key subject area consists of a set of composite questions representing the range of comments and the main concerns raised on a given issue. Each composite question is then followed by the USACE response. Table 1 provides a list of individuals or organizations submitting comments and Table 2 provides a comment response index including the date, a number for each comment, a brief description of the comment, and a letter designation(s) referring to the Generic Comment Response ID (if included, an * indicates the comment is not included in a generic response and the reader should refer to the specific response in Section 5). USACE's responses to the generic comments are presented in Section 4.1 through 4.11.

The submitted comments have also been placed in the Administrative Record File for the Linde Site. The Record of Decision (ROD), including this Responsiveness Summary, has also been placed in the Administrative Record File.

Table 1. List of Commenters

Commenter	No.	Representing	Date
Public Meeting Comments	1	Numerous	April 22, 1999
Public Hearing Comments	2	Numerous	June 3, 1999
George M. Melrose	3	Town of Tonawanda, Commission for Conservation of the Environment	April 7, 1999
Dennis A. Conroy	4	Praxair	April 16, 1999
Richard M. Tobe	5	CANiT	April 20, 1999
John J. LaFalce	6	Member of Congress	April 22, 1999
Mr. & Mrs. Raymond Chapman	7	Themselves	April 28, 1999
Paul J. Merges	8	New York State Department of Environmental Conservation (NYSDEC)	April 30, 1999
Dennis A. Conroy	9	Praxair	June 10, 1999
Leonore Lambert	10	League of Women Voters (LWV)	June 10, 1999
Maureen F. Leary	11	State of New York, Office of the Attorney General	June 11, 1999

4.1 Comment Response ID - A - Support of Proposed Plan

Includes comments: 2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.3.1, 2.11.1, 2.14.1, 2.15.1, 2.18.1, 4.8, 9.5

Generic comment: In written comments received and in comments made at the April 22, 1999 public meeting, there was no support for the PP.

Following the April 22, 1999 public meeting, USACE met with community representatives to further clarify the uranium cleanup guideline proposed for Linde Site soils and committed to ensuring that the final concentrations of uranium in site soils after remediation would essentially be consistent with commitments made to the community in the past. The details of the cleanup guidelines for the Linde Site are addressed in the generic comment response C.

At the June 3, 1999 public meeting, USACE clarified the uranium cleanup guideline for Linde Site soils and stated USACE commitments to ensure that the final concentrations of uranium are acceptable (see details in response C).

At the June 3, 1999 public meeting, a number of community representatives expressed their support for the PP, as clarified by USACE concerning the uranium cleanup guideline for soils. These representatives also raised the issue of the disposition of Building 14 as a matter to be resolved. The Building 14 comments and the USACE response are addressed in generic comment response D.

Response: The preferred alternative meets commitments made to community representatives, is fully protective of human health and the environment, complies with all applicable or relevant and appropriate requirements (ARARs), and provides the best balance among the alternatives that were evaluated for the Linde Site.

Table 2. Linde Sites Revised PP Comment Response Index

Date	Comment No.	Comment from	Description	Generic Comment/ Response ID (if applicable)
4/22/99		Comments during Public Meeting (transcript page numbers included)		
"	1.1.1	Congressman LaFalce (letter in record)	Uranium cleanup guideline for soils (21 & 22)	C
"	1.1.2	"	Consensus of stakeholders (22)	*
"	1.1.3	"	Extension of public comment period (23)	B
"	1.2.1	Tobe	Extension of public comment period (23–25)	B
"	1.2.2	"	Corps policy on state concurrence and community acceptance (25 & 26)	G
"	1.2.3	"	Cleanup consistency with Tonawanda Master Plan (26)	C
"	1.2.4	"	Uranium cleanup guideline for Linde Site soils (26)	C
"	1.2.5	"	10 mrem/yr radiation exposure limit for workers and visiting public (27)	*
"	1.2.6	"	Application of MARSIMM techniques (27)	*
"	1.2.7	"	Potential need for radioactive waste license (28)	C
"	1.2.8	"	Use of an independent verification contractor (IVC) (28)	H
"	1.2.9	"	Radionuclide cleanup at Ashland 2 Site (28 & 29)	I
"	1.3.1	Calabrese	Cleanup guideline for Linde Site (31)	C
"	1.3.2	"	Potential need for radioactive waste license (31)	C
"	1.3.3	"	Radionuclide cleanup at Ashland 2 Site (32)	I
"	1.4.1	Krieger	Cleanup guideline for Linde Site soils (34)	C
"	1.4.2	"	F.A.C.T.S. lawsuit (35)	C
"	1.4.3	"	F.A.C.T.S. lawsuit (35)	*
"	1.4.4	"	Nuclear waste signs (36)	*
"	1.5.1	Hausrath	Contamination of Two Mile Creek (43)	I
"	1.5.2	"	Contamination of East Park near St. Timothys Church (44)	I
"	1.6.1	Conroy (Praxair)	Cleanup guideline for Linde Site (45)	C
"	1.6.2	"	Cleanup guideline for Colonie Site (45 & 46)	I, C
"	1.6.3	"	Potential need for radioactive waste license (46)	C
"	1.7.1	Bass-Early	Long-term contamination from radioactive waste (51)	C
"	1.8.1	Finch	Cancer risks (52)	F
"	1.9.1	Schafer	Exposure risks (54)	*
"	1.9.2	"	Tunnels at Linde Site (55)	*
"	1.9.3	"	Contamination in Building 31 and underground areas (55 & 56)	*
"	1.10.1	Swanick	Cleanup guideline for Linde Site (60-63)	C
"	1.11.1	Morford	Cleanup guideline for Linde Site (65)	C

Date	Comment No.	Comment from	Description	Generic Comment/ Response ID (if applicable)
"	1.11.2	"	Airborne contamination during site cleanup (65)	*
6/3/99		Comments During Public Meeting (transcript page number included)		
"	2.1.1	Tobe	Supports proposed remedy, with need to resolve Building 14 (21)	A, D
"	2.1.2	"	Accepts USACE position on cleanup verification (22)	A, H
"	2.1.3	"	Acceptance of proposed remediation (23)	A, H
"	2.2.1	Swanick	Supports proposed remedy, with need to resolve Building 14 (24)	A, D
"	2.2.2	"	Need to clean up Building 14 without deed restrictions (25)	D
"	2.3.1	Calabrese	Supports proposed remedy (28)	A
"	2.4.1	Finch	Public input on cleanup guideline (29)	*
"	2.4.2	"	Reason for comment period extension (30)	B
"	2.4.3	"	F.A.C.T.S. does not support 60 pCi/g cleanup guideline for uranium (33)	C
"	2.5.1	Krieger	How did subsurface contamination occur at Building 14? (35)	*
"	2.6.1	Rauch	F.A.C.T.S. lawsuit(35 & 36)	*
"	2.6.2	"	Advocates cleanup criteria from SDMP (36 & 37)	F
"	2.6.3	"	Radon exposure (37)	*
"	2.6.4	"	Does not support 60 pCi/g cleanup guideline for uranium (37-39)	C
"	2.7.1	Bruce	Lack of research on low level radioactivity (41)	*
"	2.7.2	"	Something wrong with the regulations when natural radiation is considered (43)	*
"	2.8.1	Lambert	Use of independent verification contractor (IVC) (45)	H
"	2.8.2	"	Future land use (46)	C
"	2.8.3	"	Citation of NYSDEC comments. See response to NYSDEC comments (47)	—
"	2.9.1	Hanobeck	Testing for contamination near schools (50)	I
"	2.9.2	"	Contamination under Building 14 (51)	D
"	2.9.3	"	Precautions during remediation (57)	*
"	2.10.1	Lee	Questions need for cleanup (60)	*
"	2.11.1	Dooley	Supports USACE technical findings (62)	A
"	2.12.1	Krieger	Toxicity of uranium (66)	*
"	2.12.2	"	Off-site disposal of material from Linde (67)	*
"	2.13.1	Finch	Off-site disposal of material from Linde (68)	*
"	2.14.1	Calabrese	Supports proposed remedy (69 & 70)	A
"	2.15.1	Swanick	Supports proposed remedy (71-73)	A
"	2.15.2	"	Building 14 needs to be resolved (74)	D

Date	Comment No.	Comment from	Description	Generic Comment/ Response ID (if applicable)
"	2.16.1	Rodenmocker	Contamination in Towmle Creek (75)	I
"	2.17.1	Kreiger	Questions need for cleanup (77)	*
"	2.18.1	Bazinat	Supports proposed remedy (82)	A
		Written Comments		
4/7/99	3.1	Melrose	Uranium cleanup guideline for Linde Site soils	C
4/16/99	4.1	Conroy (Praxair)	Uranium cleanup guideline for Linde Site soils	C
"	4.2	"	10 mrem/yr exposure limit	C
"	4.3	Dooley (Praxair consultant, letter to Praxair 3/2/99)	Uranium cleanup guideline for Linde Site soils	C
"	4.4	"	Dose estimates and comparison to government guidance values	*
"	4.5	"	Use of the sum of the ratios method in soils remediation	*
"	4.6	"	Uranium toxicity	*
"	4.7	"	Reference to cleanup guidelines used previously at the site	F
"	4.8	"	Concurrence in finding that groundwater cleanup is not required	A, E
"	4.9	"	Use of Reasonable Maximum Exposure (RME) in risk estimates	*
"	4.10	"	Applicable or Relevant and Appropriate Requirements (ARARs) for site cleanup	F
"	4.11	"	Reference to cleanup guidelines used previously at the site	F
4/20/99	5.1	Tobe	Postponement of public meeting and extension of comment period	B
"	5.2	"	Cleanup standards	F
"	5.3	"	Unrestricted use of the land consistent with Tonawanda Master Plan	C
4/22/99	6.1	LaFalce	Uranium cleanup guideline for Linde Site soils	C
"	6.2	"	Consensus of stakeholders	*
"	6.3	"	Extension of comment period	B
4/28/99	7.1	Chapman	Contamination in vicinity of Linde Site	I
4/30/99	8.1	Merges	Use of NYSDEC TAGM as a "To be Considered" in criteria for site cleanup	F
"	8.2	"	Future land use assumptions	C
"	8.3	"	Need for radiological risk assessment	*
"	8.4	"	Need for licensing the site after remediation	C
"	8.5	"	Need for licensing the site after remediation	C
"	8.6	"	Demonstration of the protectiveness of the 15 pCi/g cleanup criteria in subsurface soils and EPA guidance	*
"	8.7	"	Groundwater impacts from past deep well injection	E
"	8.8	"	Institutional controls	D

Date	Comment No.	Comment from	Description	Generic Comment/ Response ID (if applicable)
"	8.9	"	Authority for institutional controls	D
"	8.10	"	Vicinity properties	I
"	8.11	"	Use of independent verification contractor (IVC)	H
"	8.12	"	Application of cleanup criteria under MARSIMM	*
"	8.13	"	Application of cleanup criteria under MARSIMM	*
"	8.14	"	Use of the sum of fractions rule in soil cleanup	*
6/10/99	9.1	Conroy	Disposition of Building 14	D
"	9.2	"	Disposition of Building 14	D
"	9.3	"	Disposition of Building 14	D
"	9.4	"	Disposition of Building 14	D
"	9.5	"	Supports site cleanup guidelines, no ICs	A, D
6/10/99	10.1	Lambert	Use of independent verification contractor (IVC)	H
"	10.2	"	Absence of uranium in regulations	C
"	10.3	"	Uranium cleanup guideline and averaging	C
"	10.4	"	Institutional controls and reliability	D
"	10.5	"	Uranium cleanup guideline	C
"	10.6	"	Building demolition in the future and removal of contaminated soils	D
"	10.7	"	Background radiation	*
"	10.8	"	Institutional controls	D
6/11/99	11.1	Leary	CERCLA jurisdiction	*
"	11.2	"	State and federal ARARs	F
"	11.3	"	Groundwater remediation	E
"	11.4	"	Cleanup guideline for uranium in Linde soils	C
"	11.5	"	Remedial actions undertaken pursuant to Engineering/Evaluation/UST Analysis/EE/CA)	*
"	11.6	"	Disposal of remedial waste	*
"	11.7	"	State and federal permits	C
"	11.8	"	Community acceptance	G
"	11.9	"	Timing of remediation	*

*See specific responses in Section 5

Key:

A = Support for PP; B = Extension of public comment period; C = Residual uranium concentrations and future land use; D = Disposition of Building 14; E = Need for groundwater remediation; F = Consideration of applicable or relevant and appropriate requirements; G = State and community acceptance; H = Need for independent verification contractor (IVC); and I = Other Sites/Potential Sites

4.2 Comment Response ID - B – Extension of Public Comment Period

Includes comments: 1.1.3, 1.2.1, 2.4.2, 5.1, 6.3

Generic comment: Some commenters requested an extension of the public comment period.

Response: A minimum public review period is required under the NCP. The public review period for the Linde Site was extended to allow a 71-day review period ending June 11, 1999.

4.3 Comment Response ID - C - Residual Uranium Concentrations Cleanup and Future Land Use

Includes comments: 1.1.1, 1.2.3, 1.2.4, 1.2.7, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.6.1, 1.6.2, 1.6.3, 1.7.1, 1.10.1, 1.11.1, 2.4.3, 2.6.4, 2.8.2, 3.1, 4.1, 4.2, 4.3, 5.3, 6.1, 8.2, 8.4, 8.5, 10.2, 10.3, 10.5, 11.4, 11.7

Generic Comment: A number of comments were received expressing concern and objection over increasing the total uranium cleanup guideline from the 60 pCi/g total uranium proposed by the Department of Energy (DOE) to 600 pCi/g total uranium being proposed by USACE in the Proposed Plan. The DOE criteria would allow for release of the site with no further restrictions. Most commenters felt that the proposed criteria of 600 pCi/g for total uranium would result in restrictions on the use of the site in the future, or even the need to obtain a license to address the residual materials that would remain. The commenters stated that they do not want any restrictions on the site and that it could be used for any purpose in the future, including residential.

Response: The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

4.4 Comment Response ID - D – Disposition Building 14

Includes comments: 2.1.1, 2.2.1, 2.2.2, 2.9.2, 2.15.2, 8.8, 8.9, 9.1, 9.2, 9.3, 9.4, 9.5, 10.4, 10.6, 10.8

Generic Comment: Several comments were received concerning the proposal to leave Building 14 in its current condition with institutional controls being established to prevent inadvertent exposures to the residual contamination remaining at this building location.

Comment Response: The two action alternatives presented in the PP for remediating the Linde Site (Alternatives 2 and 4) differed only in the way Building 14 (and soils remaining under the building slabs and footings that contain contaminants exceeding the cleanup guidelines) would be addressed during the remediation process. The preferred alternative presented in the PP, Alternative 4, proposed that the building would remain on the site and that institutional controls would be implemented to protect workers in the building, and future site users from inadvertent exposures to residual contaminants remaining within and under the building. Alternative 2 included the demolition and disposal of the building and residual contaminated soils currently remaining under the building.

Comments received during the public comment period, including the public meetings, indicated that the community is concerned about leaving residual contamination on the site, even if institutional controls would prevent exposure to the contaminants.

USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

4.5 Comment Response ID - E – Need for Groundwater Remediation

Includes comments: 4.8, 8.7, 11.3

Generic comment: Comments were received concerning how the Proposed Plan addressed the groundwater at the Linde Site.

Response: The original RI, FS and PP for the Linde (Tonawanda) site(s), proposed that no action was warranted to address on-site groundwater. USACE further investigated existing available information relating to the groundwater at the Linde site and presented findings in a document entitled “Synopsis of Historical Information on Linde Effluent Injection Wells” (USACE 1999a). The result of that assessment was also a conclusion that no remediation of the groundwater is warranted. This conclusion was re-stated in the 1999 Linde PP (USACE 1999c). However, based on the comments received during the comment period, USACE has decided to not make a final decision regarding groundwater in this ROD. USACE will further assess the groundwater conditions at the site and address the need for any remediation in a future ROD.

4.6 Comment Response ID - F – Consideration of Relevant and Appropriate Requirements

Includes comments: 1.8.1, 2.6.2, 4.7, 4.10, 4.11, 5.2, 8.1, 11.2

Generic Comment: Several commenters questioned the selection of relevant and appropriate requirements used in assessing remedies for the Linde Site.

Comment Response: The standards found in 40 CFR Part 192 are not considered applicable because the regulation is only applicable to specific sites designated under UMTRCA. However, USACE has determined that 40 CFR Part 192 is relevant and appropriate to the cleanup of the Linde Site. This determination was made based on the similarity of the uranium processing activities and resulting radionuclides found in the waste after processing at uranium mill sites where the regulation is applicable. In addition, the requirements are well suited to the site.

Subpart B of 40 CFR Part 192 addresses cleanup of land and buildings contaminated with residual radioactive material from inactive uranium processing sites, and sets standards for residual concentrations of Ra-226 in soil. It requires that radium concentrations shall not exceed background by more than 5 pCi/g in the top 15 cm of soil or 15 pCi/g in any 15 cm layer below the top layer, averaged over an area of 100 m².

Subpart B also provides standards for any occupied or habitable building. These standards require that the remedial action shall be and reasonable effort shall be made to:

- achieve an annual average (or equivalent) radon decay product concentration (including background) not to exceed 0.02 Working Level (WL). In any case, the radon decay product concentration (including background) shall not exceed 0.03 WL, and
- the level of gamma radiation shall not exceed the background level by more than 20 microroentgens per hour.

These 40 CFR Part 192, Subpart B requirements are considered relevant and appropriate to the cleanup of the Linde Site and buildings.

New regulations amending 10 CFR 40, Appendix A, Criterion 6 (6) were promulgated and became effective on June 11, 1999. These regulations were evaluated and determined to not be applicable to the Linde site. However, they were found to be relevant and appropriate for the Linde site since they addressed residual uranium and other radionuclides present at uranium mill sites, similar to the Linde site. 10 CFR 40, Appendix A, Criterion 6(6) requires that residual radioactive materials remaining after remediation will not result in a total effective dose equivalent (TEDE), considering all radionuclides present (e.g., radium, thorium, and uranium) to the average member of the critical group exceeding a benchmark dose established based on cleanup to the radium standards of 5 pCi/g in the top 15 centimeters and 15 pCi/g in subsequent 15 centimeter layers below the top layer. This benchmark dose is then used to establish allowable soil and surface concentration levels for the various radionuclides present. The criterion also states if more than one residual radionuclide is present in the same 100-square-meter area, the sum of the ratios for each radionuclide of concentration present to the concentration limit will not exceed “1” (unity).

USACE evaluated the new standard, the draft NRC guidance included in the Federal Register (Vol. 64, NO. 69, dated April 12, 1999, pp. 17690–17695), and the Linde Radiological Assessment (USACE 2000). Based on the current understanding by USACE of the new standard and associated guidance, USACE was

able to use the data and information contained in the Linde Radiological Assessment (USACE 2000) to establish the benchmark doses and associated radionuclide concentration limits for surface cleanups as well as subsurface cleanups. The results in the Linde Radiological Assessment were based on RESRAD runs modeling the conditions at the Linde Site. The document also included what the allowable concentrations would be for various radionuclides to meet dose objectives both with and without cover materials for the most likely scenario at the site, the industrial/commercial scenario. These results are contained in Table 3-3 of the Linde Radiological Assessment. Using those results, USACE was able to derive the benchmark dose for surface cleanup by dividing the 10 mrem/y (no cover) by the 5.7 pCi/g of Ra-226 associated with that dose and then multiplying the result by 5 pCi/g of Ra-226, which results in a benchmark dose of 8.8 mrem/y for surface cleanups. Table 3-3 data was then used to derive the allowable concentrations for the radionuclides, total uranium, and Th-230. The same methodology was used in deriving the same information for subsurface cleanups. The data used were the results in Table 3-3 based on a cover depth of 6 inches. The resulting benchmark dose for subsurface cleanups was calculated to be 4.1 mrem/y. The following tabulates the results of the assessment and what the radionuclide limits are for surface and subsurface cleanups:

	Allowable Residual Concentration Limit for Indicated Benchmark Dose (pCi/g)	
<u>Radionuclide</u>	<u>Surface: 8.8 mrem/yr</u>	<u>Subsurface: 4.1 mrem/yr</u>
Ra-226	5.0	15
Th-230	14	44
U-total	554	3,021

During remediation, the actual radionuclide concentrations within a 100 square meter area will be divided by its corresponding concentration limit from the table above. These ratios are then added and must be equal to or less than “1” (unity). If the sum of these ratios exceeds unity, additional soil removal is necessary.

The allowable residual radionuclide concentrations on structure surfaces would be computed for specific structures and the associated exposure scenarios and would be based on meeting the benchmark dose of 8.8 mrem/y for surface cleanups.

4.7 Comment Response ID - G – State and Community Acceptance

Includes comments: 1.2.2, 11.8

Generic Comment: The original comments received indicated that the state and community did not accept the preferred alternative (1) using the 600 pCi/g total uranium cleanup criteria for the soils; and (2) proposing to impose institutional controls on Building 14. Comments made at the second public meeting show support for the revised soil cleanup criteria.

Response: After receipt of the original comments, USACE met with stakeholders and committed to: (1) achieve a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick; (2) conduct a second public meetings; and (3) defer a decision of Building 14 and the groundwater operable units. Comments made at the second public meeting showed support for the soil remediation alternative where the cleanup criteria for the soils at the Linde site will be (1) the removal of all soils exceeding the total uranium cleanup criteria of 600 pCi/g;

(2) the removal of soils exceeding the 40 CFR 192 standards for radium, which includes consideration of thorium, when averaged over 100 square meters; and (3) ensuring that the total uranium concentration remaining in the soils after remediation to the first two standards is equal to or less than 60 pCi/g when averaged over a soil volume of 2,000 square meters by 3 meters thick.

See Attachment 1 to the ROD for NYSDEC position on the selected remedy.

4.8 Comment Response ID - H – Need for Independent Verification Contractor

Includes comments: 1.2.8, 2.1.2, 2.1.3, 2.8.1, 8.11, 10.1

Generic Comment: A number of comments were received indicating that USACE should have an independent verification contractor (IVC) come in after the remedial work is completed to verify that the area has been remediated properly.

Comment Response: All remediation efforts conducted at the Linde site will be monitored and verified by government personnel in accordance with the USACE Quality Assurance Program. In addition, NYSDEC will be conducting independent assessments of the remedial work. USACE believes that with adherence to the Quality Assurance Program and the independent assessment by the state, the use of an Independent Verification Contractor is unnecessary.

4.9 Comment Response ID - I – Other Sites

Includes comments: 1.2.9, 1.3.3, 1.5.1, 1.5.2, 1.6.2, 2.9.1, 2.16.1, 7.1, 8.10

Generic Comment: A number of comments were received with respect to issues associated with other sites. Some of the sites and issues associated with other sites include: Two Mile Creek, East Park near St. Timothy's church, radionuclide cleanup at Ashland 2, the guidelines for the Colonie site, testing of contamination near schools, contamination in properties adjacent to Linde, and Linde vicinity properties not adjacent to the Linde site.

Comment Response: This ROD only addresses specific media and areas of the Linde site and its immediately adjacent properties. Issues raised regarding health problems, Building 14, the groundwater at the site or other properties off the current Praxair property are not within the scope of this decision document. Those issues will be addressed separately, if appropriate, at a future time. The other sites and issues raised are not within the scope of this decision document. However, USACE will respond to each of them under a separate correspondence.

5. RESPONSES TO SPECIFIC COMMENTS

This section of the responsiveness summary presents responses to specific comments contained within the comment documents, included in the back of this appendix as Attachments 1 through 11.

5.1 Responses to April 22, 1999 Public Meeting Comments (Attachment 1)

5.1.1 Response to Congressman LaFalce Comments

- 5.1.1.1 - (Letter from Congressman LaFalce, transcript pages 21 & 22): USACE listened to the concerns of commenters addressing the 600 pCi/g cleanup guideline for soil at Linde. USACE has clarified the uranium guidelines and committed to a total uranium cleanup guideline for Linde that will limit total uranium to a maximum of 600 pCi/g and 60 pCi/g when averaged over a soil volume of 2,000 square meter (m²) by 3 meters (m) thick. Subsequently, 10 CFR 40 Appendix A Criterion 6(6) was promulgated. Compliance with that standard will meet or exceed the previous commitment to the public.
- 5.1.1.2 - (Letter from Congressman LaFalce, transcript page 22): USACE is committed to ensuring that the cleanup of the Linde Site is protective of public health and the environment. USACE has listened to the concerns raised in comments on the PP and has clarified and is committed to a cleanup level that is consistent with commitments made to the community in the past.
- 5.1.1.3 - (Letter from Congressman LaFalce, transcript page 23): USACE has conducted a second public meeting on the PP and extended the comment period until June 11, 1999, allowing public comments for a period of 71 days.

5.1.2 Responses to Tobe Comments

- 5.1.2.1 - (Transcript pages 23-25) The comment period was extended until June 11, 1999.
- 5.1.2.2 - (Transcript pages 25 & 26) USACE is conducting the decision-making process for the Linde Site in accordance with CERCLA. Under CERCLA, a state must be given notice of a proposed plan for remedial action and an opportunity to comment on it.

In addition, the proposed remedy selection must be accompanied by a response to comments submitted by the State, including an explanation regarding any decision that does not attain a state ARAR.

If the response action is being undertaken pursuant to a consent decree under Section 106 of CERCLA, then the lead agency must provide an opportunity for the State to concur or not concur in the remedy selection if the remedy selected does not attain a state ARAR.

The Linde cleanup is not being undertaken pursuant to a CERCLA Section 106 Consent Decree. Therefore, the requirement that the state concur in the remedy selection does not apply. Rather, the state involvement requirements found in 40 CFR §300.515(h) need to be followed, along with the process for remedy selection detailed in 40 CFR §300.430(f).

Under 40 CFR §300.430(f), state acceptance of the remedy is a modifying criterion that must be considered in remedy selection. That is to say, it is not a primary balancing criterion for remedy selection, but after all comments are evaluated, state acceptance may prompt modifications to the preferred remedy. The rule directs that state concerns that shall be addressed include the following:

The state's position and key concerns related to the preferred alternative and other alternatives; and state comments on ARARs or the proposed use of waivers.

Under the procedure set out in 40 CFR §300.430(f) for remedy selection, the lead agency, in conjunction with the support agency, is to identify a preferred alternative and present it to the public in a proposed plan for review and comment. Next, the lead agency is to review the public comments and consult with the state in order to determine if the alternative remains the most appropriate remedial action for the site. The lead agency makes the final remedy selection.

One component of the community acceptance criterion is issuing the Proposed Plan for public comment. Once the USACE receives comments, it can assess whether the community accepts the Plan or would like to see it changed. Community acceptance is a modifying criterion, in that it can be used to modify the final remedy selected. It often is not evaluated or assessed until after receipt of comments on the Proposed Plan.

- 5.1.2.3 - (Transcript page 26) Comments received during the public comment period, including the public meetings, indicated that the community is concerned about leaving residual contamination on the site, even if institutional controls would prevent exposure to the contaminants.

USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

- 5.1.2.4 – (Transcript page 26) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

- 5.1.2.5 – (Transcript page 27) Although there is no requirement, the proposed remedy is expected to achieve the 10 mrem standard for anticipated future industrial/commercial land use.
- 5.1.2.6 – (Transcript page 27) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

- 5.1.2.7 – (Transcript page 28) USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick. Subsequent to that commitment, an addition to 10 CFR Part 40 Appendix A Criterion 6(6) was promulgated. Compliance with that standard will meet or exceed the previous commitments to the public. This will allow for release of the property (excluding Building 14, to be addressed separately).
- 5.1.2.8 – (Transcript page 28) All remediation efforts conducted at the Linde site will be monitored and verified by government personnel in accordance with the USACE Quality Assurance Program. In addition, NYSDEC will be conducting independent assessments of the remedial work. USACE believes that with adherence to the Quality Assurance Program and the independent assessment by the state, the use of an Independent Verification Contractor is unnecessary.
- 5.1.2.9 – (Transcript Pages 28 & 29) Questions concerning the cleanup of Ashland 2 are beyond the scope of this action, however, USACE is available to discuss these questions if you would contact the public information office.

5.1.3 Responses to Calabrese Comments

- 5.1.3.1 – (Transcript page 31) The USACE remediation will be protective of human health and the environment.
- 5.1.3.2 – (Transcript page 31) USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick. Subsequent to that commitment, an addition to 10 CFR Part 40 Appendix A Criterion 6(6) was promulgated. Compliance with that standard will meet or exceed the previous commitments to the public. This will allow for release of the property (excluding Building 14, to be addressed separately).
- 5.1.3.3 – (Transcript page 32) Questions concerning the cleanup of Ashland 2 are beyond the scope of this action, however, USACE is available to discuss these questions if you would contact the public information office.

5.1.4 Responses to Krieger Comments

- 5.1.4.1 – (Transcript page 34) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

- 5.1.4.2 – (Transcript page 35) All action against the Corps of Engineers under the F.A.C.T.S. lawsuit have been dismissed.
- 5.1.4.3 – (Transcript page 35) All Action against the Corps of Engineers under the F.A.C.T.S. lawsuit have been dismissed.

- 5.1.4.4 – (Transcript page 36) This ROD only addresses specific media and areas of the Linde site and its immediately adjacent properties. Issues raised regarding health problems, Building 14, the groundwater at the site or other properties off the current Praxair property are not within the scope of this decision document. Those issues will be addressed separately, if appropriate, at a future time.

5.1.5 Responses to Hausrath Comments

- 5.1.5.1 – (Transcript page 43) This ROD only addresses specific media and areas of the Linde site and its immediately adjacent properties. Issues raised regarding health problems, Building 14, the groundwater at the site or other properties off the current Praxair property are not within the scope of this decision document. Those issues will be addressed separately, if appropriate, at a future time.
- 5.1.5.2 – (Transcript page 44) This ROD only addresses specific media and areas of the Linde site and its immediately adjacent properties. Issues raised regarding health problems, Building 14, the groundwater at the site or other properties off the current Praxair property are not within the scope of this decision document. Those issues will be addressed separately, if appropriate, at a future time.

5.1.6 Responses to Conroy Comments

5.1.6.1-3– (Transcript pages 45 & 46) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

5.1.7 Response to Bass-Early Comment

- 5.1.7.1 – (Transcript page 51) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

5.1.8 Response to Finch Comment

- 5.1.8.1 – (Transcript page 52) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must

be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

5.1.9 Responses to Schafer Comments

- 5.1.9.1 – (Transcript page 54) The USACE remedy proposed for the Linde Site has been determined to be protective of human health and the environment.
- 5.1.9.2 – (Transcript page 55) The remedy proposed for the Linde Site includes the remediation of the utility tunnels on the site.
- 5.1.9.3 – (Transcript pages 55 & 56) The remedy proposed for the Linde Site includes the remediation of the utility tunnels on the site and the buried vault next to Building 57.

5.1.10 Response to Swanick Comment

- 5.1.10.1– (Transcript pages 60-63) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

5.1.11 Response to Morford Comments

- 5.1.11.1– (Transcript page 65) USACE is moving ahead with the most cost effective and protective remedy available to resolve issues at the Linde Site.

5.1.11.2 –(Transcript page 65) During remedial action, health and safety procedures will be followed, including monitoring within excavations and around the property perimeter to ensure that workers and the general public are not exposed to dust from the remedial effort.

5.2 Responses to June 3, 1999 Public Meeting Comments (Attachment 2)

5.2.1 Responses to Tobe Comments

5.2.1.1 - (Transcript page 21) Comment noted.

5.2.1.2 - (Transcript page 22) Comment noted. All remediation efforts conducted at the Linde site will be monitored and verified by government personnel in accordance with the USACE Quality Assurance Program. In addition, NYSDEC will be conducting independent assessments of the remedial work. USACE believes that with adherence to the Quality Assurance Program and the independent assessment by the state, the use of an Independent Verification Contractor is unnecessary.

5.2.1.3 - (Transcript page 23) Comment noted.

5.2.2 Responses to Swanick Comments

5.2.2.1 - (Transcript page 24) Comment noted.

5.2.2.2 - (Transcript page 25) The two action alternatives presented in the PP for remediating the Linde site (Alternatives 2 and 4) differed only in the way Building 14 (and soils remaining under the building slabs and footings that contain contaminants exceeding the cleanup guidelines) would be addressed during the remediation process. The preferred alternative presented in the PP, Alternative 4, proposed that the building would remain on the site and that institutional controls would be implemented to protect workers in the building, and future site users from inadvertent exposures to residual contaminants remaining within and under the building. Alternative 2 included the demolition and disposal of the building and residual contaminated soils currently remaining under the building.

Comments received during the public comment period, including the public meetings, indicated that the community is concerned about leaving residual contamination on the site, even if institutional controls would prevent exposure to the contaminants.

USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

5.2.3 Response to Calabrese Comment

5.2.3.1 – (Transcript page 28) Comment noted.

5.2.4 Responses to Finch Comments

- 5.2.4.1 – (Transcript page 29) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

- 5.2.4.2 – (Transcript page 30) The comment period was extended 30 days due to the receipt of a request for an extension. An additional 11 days were added to allow for comments after the second public meeting.

- 5.2.4.3 – (Transcript page 33) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing

concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

5.2.5 Response to Krieger Comment

5.2.5.1 – (Transcript page 35) We have information which indicates that Building 14 was constructed in the 1930's, however we do not have any specific information that explains how the radioactive material came to be under the building. Potential explanations for the material's location are that radioactive material were present in the fill that was placed during construction of the building or that material leaked through the floor or out of floor drains while operations took place inside of the building.

5.2.6 Responses to Rauch Comments

5.2.6.1 – (Transcript pages 35 & 36) All action against the Corps of Engineers under the F.A.C.T.S. lawsuit have been dismissed.

5.2.6.2 – (Transcript pages 36 & 37) The standards found in 40 CFR Part 192 are not considered applicable because the regulation is only applicable to specific sites designated under UMTRCA. However, USACE has determined that 40 CFR Part 192 is relevant and appropriate to the cleanup of the Linde Site. This determination was made based on the similarity of the uranium processing activities and resulting radionuclides found in the waste after processing at uranium mill sites where the regulation is applicable. In addition, the requirements are well suited to the site.

Subpart B of 40 CFR Part 192 addresses cleanup of land and buildings contaminated with residual radioactive material from inactive uranium processing sites, and sets standards for residual concentrations of Ra-226 in soil. It requires that radium concentrations shall not exceed background by more than 5 pCi/g in the top 15 cm of soil or 15 pCi/g in any 15 cm layer below the top layer, averaged over an area of 100 m².

Subpart B also provides standards for any occupied or habitable building. These standards require that the remedial action shall be and reasonable effort shall be made to:

- achieve an annual average (or equivalent) radon decay product concentration (including background) not to exceed 0.02 Working Level (WL). In any case, the radon decay product concentration (including background) shall not exceed 0.03 WL, and
- the level of gamma radiation shall not exceed the background level by more than 20 microroentgens per hour.

These 40 CFR Part 192, Subpart B requirements are considered relevant and appropriate to the cleanup of the Linde Site and buildings.

New regulations amending 10 CFR 40, Appendix A, Criterion 6 (6) were promulgated and became effective on June 11, 1999. These regulations were evaluated and determined to not be applicable to the Linde site. However, they were found to be relevant and appropriate for the Linde site since they addressed residual uranium and other radionuclides present at uranium mill sites, similar to the Linde site. 10 CFR 40, Appendix A, Criterion 6(6) requires that residual radioactive materials remaining after remediation will not result in a total effective dose equivalent (TEDE), considering all radionuclides present (e.g., radium, thorium, and uranium) to the average member of the critical group exceeding a benchmark dose established based on cleanup to the radium standards of 5 pCi/g in the top 15 centimeters and 15 pCi/g in subsequent 15 centimeter layers below the top layer. This benchmark dose is then used to establish allowable soil and surface concentration levels for the various radionuclides present. The criterion also states if more than one residual radionuclide is present in the same 100-square-meter area, the sum of the ratios for each radionuclide of concentration present to the concentration limit will not exceed “1” (unity).

USACE evaluated the new standard, the draft NRC guidance included in the Federal Register (Vol. 64, NO. 69, dated April 12, 1999, pp. 17690–17695), and the Linde Radiological Assessment (USACE 2000). Based on the current understanding by USACE of the new standard and associated guidance, USACE was able to use the data and information contained in the Linde Radiological Assessment (USACE 2000) to establish the benchmark doses and associated radionuclide concentration limits for surface cleanups as well as subsurface cleanups. The results in the Linde Radiological Assessment were based on RESRAD runs modeling the conditions at the Linde Site. The document also included what the allowable concentrations would be for various radionuclides to meet dose objectives both with and without cover materials for the most likely scenario at the site, the industrial/commercial scenario. These results are contained in Table 3-3 of the Linde Radiological Assessment. Using those results, USACE was able to derive the benchmark dose for surface cleanup by dividing the 10 mrem/y (no cover) by the 5.7 pCi/g of Ra-226 associated with that dose and then multiplying the result by 5 pCi/g of Ra-226, which results in a benchmark dose of 8.8 mrem/y for surface cleanups. Table 3-3 data was then used to derive the allowable concentrations for the radionuclides, total uranium, and Th-230. The same methodology was used in deriving the same information for subsurface cleanups. The data used were the results in Table 3-3 based on a cover depth of 6 inches. The resulting benchmark dose for subsurface cleanups was calculated to be 4.1 mrem/y. The following tabulates the results of the assessment and what the radionuclide limits are for surface and subsurface cleanups:

	Allowable Residual Concentration Limit for Indicated Benchmark Dose (pCi/g)	
<u>Radionuclide</u>	<u>Surface: 8.8 mrem/yr</u>	<u>SubSurface: 4.1 mrem/yr</u>
Ra-226	5.0	15
Th-230	14	44
U-total	554	3,021

During remediation, the actual radionuclide concentrations within a 100 square meter area will be divided by its corresponding concentration limit from the table above. These ratios are then added and must be equal to or less than “1” (unity). If the sum of these ratios exceeds unity, additional soil removal is necessary.

The allowable residual radionuclide concentrations on structure surfaces would be computed for specific structures and the associated exposure scenarios and would be based on meeting the benchmark dose of 8.8 mrem/y for surface cleanups.

- 5.2.6.3 – (Transcript page 37) Radon has been considered and standards are included in 40 CFR Part 192 covering radon.
- 5.2.6.4 – (Transcript page 37-39) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

5.2.7 Responses to Bruce Comments

- 5.2.7.1 – (Transcript page 41) The standards found in 40 CFR Part 192 are not considered applicable because the regulation is only applicable to specific sites designated under UMTRCA. However, USACE has determined that 40 CFR Part 192 is relevant and appropriate to the cleanup of the Linde Site. This determination was made based on the similarity of the uranium processing activities and resulting radionuclides found in the waste after processing at uranium mill sites where the regulation is applicable. In addition, the requirements are well suited to the site.

Subpart B of 40 CFR Part 192 addresses cleanup of land and buildings contaminated with residual radioactive material from inactive uranium processing sites, and sets standards for residual concentrations of Ra-226 in soil. It requires that radium concentrations shall not exceed background by more than 5 pCi/g in the top 15 cm of soil or 15 pCi/g in any 15 cm layer below the top layer, averaged over an area of 100 m².

Subpart B also provides standards for any occupied or habitable building. These standards require that the remedial action shall be and reasonable effort shall be made to:

- achieve an annual average (or equivalent) radon decay product concentration (including background) not to exceed 0.02 Working Level (WL). In any case, the radon decay product concentration (including background) shall not exceed 0.03 WL, and
- the level of gamma radiation shall not exceed the background level by more than 20 microroentgens per hour.

These 40 CFR Part 192, Subpart B requirements are considered relevant and appropriate to the cleanup of the Linde Site and buildings.

New regulations amending 10 CFR 40, Appendix A, Criterion 6 (6) were promulgated and became effective on June 11, 1999. These regulations were evaluated and determined to not be applicable to the Linde site. However, they were found to be relevant and appropriate for the Linde site since they addressed residual uranium and other radionuclides present at uranium mill sites, similar to the Linde site. 10 CFR 40, Appendix A, Criterion 6(6) requires that residual radioactive materials remaining after remediation will not result in a total effective dose equivalent (TEDE), considering all radionuclides present (e.g., radium, thorium, and uranium) to the average member of the critical group exceeding a benchmark dose established based on cleanup to the radium standards of 5 pCi/g in the top 15 centimeters and 15 pCi/g in subsequent 15 centimeter layers below the top layer. This benchmark dose is then used to establish allowable soil and surface concentration levels for the various radionuclides present. The criterion also states if more than one residual radionuclide is present in the same 100-square-meter area, the sum of the ratios for each radionuclide of concentration present to the concentration limit will not exceed “1” (unity).

USACE evaluated the new standard, the draft NRC guidance included in the Federal Register (Vol. 64, NO. 69, dated April 12, 1999, pp. 17690–17695), and the Linde Radiological Assessment (USACE 2000). Based on the current understanding by USACE of the new standard and associated guidance, USACE was able to use the data and information contained in the Linde Radiological Assessment (USACE 2000) to establish the benchmark doses and associated radionuclide concentration limits for surface cleanups as well as subsurface cleanups. The results in the Linde Radiological Assessment were based on RESRAD runs modeling the conditions at the Linde Site. The document also included what the allowable concentrations would be for various radionuclides to meet dose objectives both with and without cover materials for the most likely scenario at the site, the industrial/commercial scenario. These results are contained in Table 3-3 of the Linde Radiological Assessment. Using those results, USACE was able to derive the benchmark dose for surface cleanup by dividing the 10 mrem/y (no cover) by the 5.7 pCi/g of Ra-226 associated with that dose and then multiplying the result by 5 pCi/g of Ra-226, which results in a benchmark dose of 8.8 mrem/y for surface cleanups. Table 3-3 data was then used to derive the allowable concentrations for the radionuclides, total uranium, and Th-230. The same methodology was used in deriving the same information for subsurface cleanups. The data used were the results in Table 3-3 based on a cover depth of 6 inches. The resulting benchmark dose for subsurface cleanups was calculated to be 4.1 mrem/y. The following tabulates the results of the assessment and what the radionuclide limits are for surface and subsurface cleanups:

	Allowable Residual Concentration Limit for Indicated Benchmark Dose (pCi/g)	
<u>Radionuclide</u>	<u>Surface: 8.8 mrem/yr</u>	<u>SubSurface: 4.1 mrem/yr</u>
Ra-226	5.0	15
Th-230	14	44
U-total	554	3,021

During remediation, the actual radionuclide concentrations within a 100 square meter area will be divided by its corresponding concentration limit from the table above. These ratios are then added and must be equal to or less than “1” (unity). If the sum of these ratios exceeds unity, additional soil removal is necessary.

The allowable residual radionuclide concentrations on structure surfaces would be computed for specific structures and the associated exposure scenarios and would be based on meeting the benchmark dose of 8.8 mrem/y for surface cleanups.

5.2.7.2 – (Transcript page 43) Comment noted.

5.2.8 Responses to Lambert Comments

5.2.8.1 – (Transcript page 45) All remediation efforts conducted at the Linde site will be monitored and verified by government personnel in accordance with the USACE Quality Assurance Program. In addition, NYSDEC will be conducting independent assessments of the remedial work. USACE believes that with adherence to the Quality Assurance Program and the independent assessment by the state, the use of an Independent Verification Contractor is unnecessary.

5.2.8.2 – (Transcript page 46) The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR

Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

- 5.2.8.3 – (Transcript page 47) The circumstances and history of the site have been carefully reviewed and it has been determined that 40 CFR Part 192 is relevant and appropriate for the site.

5.2.9 Responses to Hanobeck Comments

- 5.2.9.1 – (Transcript page 50) This ROD only addresses specific media and areas of the Linde site and its immediately adjacent properties. Issues raised regarding health problems, Building 14, the groundwater at the site or other properties off the current Praxair property are not within the scope of this decision document. Those issues will be addressed separately, if appropriate, at a future time.
- 5.2.9.2 – (Transcript page 51) We have information which indicates that Building 14 was constructed in the 1930's, however we do not have any specific information that explains how the radioactive material came to be under the building. Potential explanations for the materials location are that radioactive material were present in the fill that was placed during construction of the building or that material leaked through the floor or out of floor drains while operations took place inside of the building.
- 5.2.9.3 – (Transcript page 57) During remedial action, health and safety procedures will be followed, including monitoring within excavations and around the property perimeter to ensure that workers and the general public are not exposed to dust from the remedial effort.

5.2.10 Response to Lee Comment

- 5.2.10.1 – (Transcript page 60) USACE will proceed with the remediation of this property as required under CERCLA. The remedial action will be the most cost effective remedy that is considered to be protective of human health and the environment.

5.2.11 Response to Dooley Comment

- 5.2.11.1 – (Transcript page 62) Comment noted.

5.2.12 Response to Krieger Comment

- 5.2.12.1 – (Transcript page 66) During the assessment, the toxic as well as cancer risks posed by uranium were considered. The resulting cleanup concentration for uranium at the site will be protective to human health, for both cancer and toxic concerns.
- 5.2.12.2 - (Transcript page 67) No.

5.2.13 Response to Finch Comment

5.2.13.1 – (Transcript page 8) Comment noted.

5.2.14 Response to Calabrese Comment

5.2.14.1 – (Transcript pages 69-71) Comment noted.

5.2.15 Responses to Swanick Comments

5.2.15.1 – (Transcript pages 71-73) Comment noted.

5.2.15.2 – (Transcript page 74) The two action alternatives presented in the PP for remediating the Linde site (Alternatives 2 and 4) differed only in the way Building 14 (and soils remaining under the building slabs and footings that contain contaminants exceeding the cleanup guidelines) would be addressed during the remediation process. The preferred alternative presented in the PP, Alternative 4, proposed that the building would remain on the site and that institutional controls would be implemented to protect workers in the building, and future site users from inadvertent exposures to residual contaminants remaining within and under the building. Alternative 2 included the demolition and disposal of the building and residual contaminated soils currently remaining under the building.

Comments received during the public comment period, including the public meetings, indicated that the community is concerned about leaving residual contamination on the site, even if institutional controls would prevent exposure to the contaminants.

USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

5.2.16 Response to Rodenmocker Comment

5.2.16.1 – (Transcript page 75) This ROD only addresses specific media and areas of the Linde site and its immediately adjacent properties. Issues raised regarding health problems, Building 14, the groundwater at the site or other properties off the current Praxair property are not within the scope of this decision document. Those issues will be addressed separately, if appropriate, at a future time.

5.2.17 Response to Kreiger Comment

5.2.17.1 – (Transcript page 77) USACE will proceed with the remediation of this property as required under CERCLA. The remedial action will be the most cost effective remedy that is considered to be protective of human health and the environment.

5.2.18 Response to Bazinat Comment

5.2.18.1 –(Transcript page 82) Comment noted.

5.3 Written Comments from George Melrose (Attachment 3)

5.3.1- The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

5.4 Written Comments from Dennis Conroy (Attachment 4)

5.4.1 - The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

- 5.4.2- USACE believes that the most reasonable future use of this site is commercial/industrial. Under these types of uses, the remedy will achieve the 10 mrem/yr standard.
- 5.4.3- Comment noted. USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick. Subsequent to that commitment, an addition to 10 CFR Part 40 Appendix A Criterion 6(6) was promulgated. Compliance with that standard will meet or exceed the previous commitments to the public. This will allow for release of the property (excluding Building 14, to be addressed separately).
- 5.4.4- The comment on the referenced supporting document is noted.
- 5.4.5- The comment on the referenced supporting document is noted.
- 5.4.6- The comment on the referenced supporting document is noted.
- 5.4.7- The standards found in 40 CFR Part 192 are not considered applicable because the regulation is only applicable to specific sites designated under UMTRCA. However, USACE has determined that 40 CFR Part 192 is relevant and appropriate to the cleanup of the Linde Site. This determination was made based on the similarity of the uranium processing activities and resulting radionuclides found in the waste after processing at uranium mill sites where the regulation is applicable. In addition, the requirements are well suited to the site. DOE Orders are unpromulgated and therefore not considered applicable or relevant and appropriate to the CERCLA remediation of the Linde Site.
- 5.4.8- Comment noted. The original RI, FS and PP for the Linde (Tonawanda) site(s), proposed that no action was warranted to address on-site groundwater. USACE further investigated existing available information relating to the groundwater at the Linde site and presented findings in a document entitled "Synopsis of Historical Information on Linde Effluent Injection Wells" (USACE 1999a). The result of that assessment was also a conclusion that no remediation of the groundwater is warranted. This conclusion was re-stated in the 1999 Linde PP (USACE 1999c). However, based on the comments received during the comment period, USACE has decided to not make a final decision regarding groundwater in this ROD. USACE will further assess the groundwater conditions at the site and address the need for any remediation in a future ROD.
- 5.4.9- "BRA" has been defined in the ROD.
- 5.4.10- RME's were used in the baseline risk assessment.

5.4.11-12- The standards found in 40 CFR Part 192 are not considered applicable because the regulation is only applicable to specific sites designated under UMTRCA. However, USACE has determined that 40 CFR Part 192 is relevant and appropriate to the cleanup of the Linde Site. This determination was made based on the similarity of the uranium processing activities and resulting radionuclides found in the waste after processing at uranium mill sites where the regulation is applicable. In addition, the requirements are well suited to the site.

Neither DOE Orders nor NYSDEC TAGMs are properly promulgate regulations. Therefore, they are not potential ARARs for the site, making it unnecessary to discuss them in this document.

5.5 Written Comments from Tobe (Attachment 5)

5.5.1 A minimum public review period is required under the NCP. The public review period for the Linde Site was extended to allow a 71-day review period ending June 11, 1999.

5.5.2-3- The standards found in 40 CFR Part 192 are not considered applicable because the regulation is only applicable to specific sites designated under UMTRCA. However, USACE has determined that 40 CFR Part 192 is relevant and appropriate to the cleanup of the Linde Site. This determination was made based on the similarity of the uranium processing activities and resulting radionuclides found in the waste after processing at uranium mill sites where the regulation is applicable. In addition, the requirements are well suited to the site.

Subpart B of 40 CFR Part 192 addresses cleanup of land and buildings contaminated with residual radioactive material from inactive uranium processing sites, and sets standards for residual concentrations of Ra-226 in soil. It requires that radium concentrations shall not exceed background by more than 5 pCi/g in the top 15 cm of soil or 15 pCi/g in any 15 cm layer below the top layer, averaged over an area of 100 m².

Subpart B also provides standards for any occupied or habitable building. These standards require that the remedial action shall be and reasonable effort shall be made to:

- achieve an annual average (or equivalent) radon decay product concentration (including background) not to exceed 0.02 Working Level (WL). In any case, the radon decay product concentration (including background) shall not exceed 0.03 WL, and
- the level of gamma radiation shall not exceed the background level by more than 20 microroentgens per hour.

These 40 CFR Part 192, Subpart B requirements are considered relevant and appropriate to the cleanup of the Linde Site and buildings.

New regulations amending 10 CFR 40, Appendix A, Criterion 6 (6) were promulgated and became effective on June 11, 1999. These regulations were evaluated and determined to not be applicable to the Linde site. However, they were found to be relevant and appropriate for the Linde site since they addressed residual uranium and other radionuclides present at uranium mill sites, similar to the Linde site. 10 CFR 40, Appendix A, Criterion 6(6) requires that residual radioactive materials remaining after remediation will not result in a total effective dose equivalent (TEDE), considering all radionuclides present (e.g., radium, thorium, and uranium) to the average member of the critical group exceeding a benchmark

dose established based on cleanup to the radium standards of 5 pCi/g in the top 15 centimeters and 15 pCi/g in subsequent 15 centimeter layers below the top layer. This benchmark dose is then used to establish allowable soil and surface concentration levels for the various radionuclides present. The criterion also states if more than one residual radionuclide is present in the same 100-square-meter area, the sum of the ratios for each radionuclide of concentration present to the concentration limit will not exceed “1” (unity).

USACE evaluated the new standard, the draft NRC guidance included in the Federal Register (Vol. 64, NO. 69, dated April 12, 1999, pp. 17690–17695), and the Linde Radiological Assessment (USACE 2000). Based on the current understanding by USACE of the new standard and associated guidance, USACE was able to use the data and information contained in the Linde Radiological Assessment (USACE 2000) to establish the benchmark doses and associated radionuclide concentration limits for surface cleanups as well as subsurface cleanups. The results in the Linde Radiological Assessment were based on RESRAD runs modeling the conditions at the Linde Site. The document also included what the allowable concentrations would be for various radionuclides to meet dose objectives both with and without cover materials for the most likely scenario at the site, the industrial/commercial scenario. These results are contained in Table 3-3 of the Linde Radiological Assessment. Using those results, USACE was able to derive the benchmark dose for surface cleanup by dividing the 10 mrem/y (no cover) by the 5.7 pCi/g of Ra-226 associated with that dose and then multiplying the result by 5 pCi/g of Ra-226, which results in a benchmark dose of 8.8 mrem/y for surface cleanups. Table 3-3 data was then used to derive the allowable concentrations for the radionuclides, total uranium, and Th-230. The same methodology was used in deriving the same information for subsurface cleanups. The data used were the results in Table 3-3 based on a cover depth of 6 inches. The resulting benchmark dose for subsurface cleanups was calculated to be 4.1 mrem/y. The following tabulates the results of the assessment and what the radionuclide limits are for surface and subsurface cleanups:

	Allowable Residual Concentration Limit for Indicated Benchmark Dose (pCi/g)	
Radionuclide	Surface: 8.8 mrem/yr	SubSurface: 4.1 mrem/yr
Ra-226	5.0	15
Th-230	14	44
U-total	554	3,021

During remediation, the actual radionuclide concentrations within a 100 square meter area will be divided by its corresponding concentration limit from the table above. These ratios are then added and must be equal to or less than “1” (unity). If the sum of these ratios exceeds unity, additional soil removal is necessary.

The allowable residual radionuclide concentrations on structure surfaces would be computed for specific structures and the associated exposure scenarios and would be based on meeting the benchmark dose of 8.8 mrem/y for surface cleanups.

5.6 Written Comments from La Falce (Attachment 6)

- 5.6.1- The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

- 5.6.2- After receipt of the original comments, USACE met with stakeholders and had decided to: (1) achieving a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick; (2) conducting a second public meetings; and (3) deferring a decision of Building 14 and the groundwater operable units. Comments made at the second public meeting showed support for the soil remediation alternative where the cleanup criteria for the soils at the Linde site would be (1) the removal of all soils exceeding the total uranium cleanup criteria of 600 pCi/g; (2) the removal of soils exceeding the 40 CFR 192 standards for radium, which includes consideration of thorium, when averaged over 100 square meters; and (3) ensuring that the total uranium concentration remaining in the soils after remediation to the first two standards is equal to or less than 60 pCi/g when averaged over a soil volume of 2,000 square meters by 3 meters thick. Subsequent to that commitment, an addition to 10 CFR Part 40 Appendix A, Criterion 6(6) was promulgated. Compliance with that standard will meet or exceed the previous commitment to the public.

- 5.6.3- Comment noted.

5.7 Written Comment from Chapman (Attachment 7)

- 5.7.1- This ROD only addresses specific media and areas of the Linde site and its immediately adjacent properties. Issues raised regarding health problems, Building 14, the groundwater at

the site or other properties off the current Praxair property are not within the scope of this decision document. Those issues will be addressed separately, if appropriate, at a future time

5.8 Written Comments from Merges (Attachment 8)

- 5.8.1- It is USACE's position that the adequacy of the remedy selected and applied will be measured by evaluating compliance with the ARARs and the risk based uranium cleanup criteria, not TAGM 4003. However, USACE understands what NYSDEC must do to address the NYS administrative guidelines and believes that implementation of the preferred remedy will result in a level of protectiveness at the Linde Site is acceptable to the State.
- 5.8.2- It is USACE's position that the implementation of a remedial action in compliance with 40 CFR Part 192 and 10 CFR Part 40, Appendix A, Criterion 6(6) will allow for future unrestricted use, including residential, at the Linde Site. In addition, USACE believes that when NYSDEC completes their assessment, NYSDEC will come to the same conclusion.
- 5.8.3- The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR 192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

- 5.8.4-5- All material present at the Linde Site is considered pre-1978 byproduct material that is not subject to NRC jurisdiction. It is therefore, by definition, not source material and, in accordance with a March 2, 1998 letter from the NRC specifically addressing the Linde site, not subject to license requirements to remain at the site or be handled.

In addition there are no NRC rules or regulations that would preclude disposal of the materials in a RCRA disposal facility. However, acceptance at such a facility would be subject to its operating permit and the agreement of the state agency that regulates the facility's permit compliance.

- 5.8.6- The circumstances and history of the site have been carefully reviewed and it has been determined that 40 CFR Part 192 and 10 CFR Part 40, Appendix A, Criterion 6(6) are relevant and appropriate for the site.
- 5.8.7- The original RI, FS and PP for the Linde (Tonawanda) site(s), proposed that no action was warranted to address on-site groundwater. USACE further investigated existing available information relating to the groundwater at the Linde site and presented findings in a document entitled "Synopsis of Historical Information on Linde Effluent Injection Wells" (USACE 1999a). The result of that assessment was also a conclusion that no remediation of the groundwater is warranted. This conclusion was re-stated in the 1999 Linde PP (USACE 1999c). However, based on the comments received during the comment period, USACE has decided to not make a final decision regarding groundwater in this ROD. USACE will further assess the groundwater conditions at the site and address the need for any remediation in a future ROD.
- 5.8.8-9- The two action alternatives presented in the PP for remediating the Linde site (Alternatives 2 and 4) differed only in the way Building 14 (and soils remaining under the building slabs and footings that contain contaminants exceeding the cleanup guidelines) would be addressed during the remediation process. The preferred alternative presented in the PP, Alternative 4, proposed that the building would remain on the site and that institutional controls would be implemented to protect workers in the building, and future site users from inadvertent exposures to residual contaminants remaining within and under the building. Alternative 2 included the demolition and disposal of the building and residual contaminated soils currently remaining under the building.

Comments received during the public comment period, including the public meetings, indicated that the community is concerned about leaving residual contamination on the site, even if institutional controls would prevent exposure to the contaminants.

USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

- 5.8.10- This ROD only addresses specific media and areas of the Linde site and its immediately adjacent properties. Issues raised regarding health problems, Building 14, the groundwater at the site or other properties off the current Praxair property are not within the scope of this decision document. Those issues will be addressed separately, if appropriate, at a future time
- 5.8.11- All remediation efforts conducted at the Linde site will be monitored and verified by government personnel in accordance with the USACE Quality Assurance Program. In addition, NYSDEC will be conducting independent assessments of the remedial work. USACE believes that with adherence to the Quality Assurance Program and the independent assessment by the state, the use of an Independent Verification Contractor is unnecessary.

5.8.12- USACE will apply MARSSIM techniques

5.8.13- Comment noted.

5.8.14- Comment noted.

5.8.15- Comment noted.

5.9 Written Comments from Conroy (Attachment 9)

5.9.1-4- The two action alternatives presented in the PP for remediating the Linde site (Alternatives 2 and 4) differed only in the way Building 14 (and soils remaining under the building slabs and footings that contain contaminants exceeding the cleanup guidelines) would be addressed during the remediation process. The preferred alternative presented in the PP, Alternative 4, proposed that the building would remain on the site and that institutional controls would be implemented to protect workers in the building, and future site users from inadvertent exposures to residual contaminants remaining within and under the building. Alternative 2 included the demolition and disposal of the building and residual contaminated soils currently remaining under the building.

Comments received during the public comment period, including the public meetings, indicated that the community is concerned about leaving residual contamination on the site, even if institutional controls would prevent exposure to the contaminants.

USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

5.9.5- Comment noted. USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

5.10 Written Comments from Lambert (Attachment 10)

5.10.1 All remediation efforts conducted at the Linde site will be monitored and verified by government personnel in accordance with the USACE Quality Assurance Program. In addition, NYSDEC will be conducting independent assessments of the remedial work. USACE believes that with adherence to the Quality Assurance Program and the independent assessment by the state, the use of an Independent Verification Contractor is unnecessary

5.10.2-3- The cleanup criteria proposed by USACE was developed to provide for an acceptable level of protection in accordance with CERCLA and was based on an industrial exposure scenario, which is the most likely future land use. The proposed criteria were the standards in 40 CFR

192 for radium, which includes consideration of thorium, and 600 pCi/g total uranium. Based on modeling results, remediation of the site to the 40 CFR 192 criteria and the cleanup level of 600 pCi/g for total uranium should result in a residual total uranium concentration of 60 pCi/g, or less, when averaged over a soil volume of 2,000 square meters by 3 meters thick. The expected residual total uranium concentration in the soils is equal to or less than the earlier DOE recommended guideline of 60 pCi/g for total uranium in residual soils that would allow for release for residential use and no further radiological restrictions. After consideration of these concerns and the modeling results, USACE agreed to commit to a post-remedial total uranium concentration in the soils of 60 pCi/g when averaged over a soil volume of 2,000 square meters by three (3) meters thick.

On June 11, 1999, subsequent to the release of the PP, an amendment to 10 CFR 40, Appendix A, Criterion 6(6) became effective making the use of a site specific uranium guideline unnecessary. That regulation requires that remaining byproduct material containing concentrations of radionuclides other than radium, such as uranium in the soil, and surface activity on remaining structures, do not result in a total effective dose equivalent exceeding the benchmark dose, which is the dose associated with cleanup to the radium standards, and must be as low as reasonably achievable. While the regulation is not applicable, it is considered relevant and appropriate. USACE believes that compliance with that regulation and 40 CFR Part 192 will require the removal of more material than was anticipated using the site specific guideline and effect a cleanup that meets the original commitment to the community.

5.10.4 The application of the radium cleanup guideline includes the fact that thorium will decay to radium in the future. The cleanup guideline of 5/15 pCi/g of radium includes the removal of thorium such that the standard is met for 1,000 years, based on accepted guidance.

5.10.5-6- The two action alternatives presented in the PP for remediating the Linde site (Alternatives 2 and 4) differed only in the way Building 14 (and soils remaining under the building slabs and footings that contain contaminants exceeding the cleanup guidelines) would be addressed during the remediation process. The preferred alternative presented in the PP, Alternative 4, proposed that the building would remain on the site and that institutional controls would be implemented to protect workers in the building, and future site users from inadvertent exposures to inaccessible residual contaminants (radium, thorium and uranium exceeding the cleanup guidelines) remaining within and under the building. Alternative 2 included the demolition and disposal of the building and residual contaminated soils currently remaining under the building.

Comments received during the public comment period, including the public meetings, indicated that the community is concerned about leaving residual contamination on the site, even if institutional controls would prevent exposure to the contaminants.

USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

5.10.7 Background concentrations for the radionuclides being addressed at the Linde Site were developed during the remedial investigation and are presented in the RI report.

- 5.10.8- Comments received during the public comment period, including the public meetings, indicated that the community is concerned about leaving residual contamination on the site, even if institutional controls would prevent exposure to the contaminants.

USACE has decided that additional assessment of the possible remedies for Building 14 (and residual soils under the building) is warranted. Therefore, the building and soils under the building are being excluded from this ROD and will be addressed separately, allowing for the initiation of remedial actions to proceed on the remainder of the site. A future ROD will be developed to address Building 14 and any residual contaminated soils under the building.

5.11 Response to Leary Comments (Attachment 11)

- 5.11.1 Comment noted.

- 5.11.2 USACE has considered all potential ARARs submitted by the State of New York, as well as others, during the ARAR selection process. Each requirement, criteria or limitation submitted was evaluated to determine if it was properly promulgated and contained substantive criteria pertaining to the hazardous substances or the circumstances of their release at the site. If they were properly promulgated and pertained to hazardous substances on the site, they were further evaluated to determine if they were applicable or relevant and appropriate. As a result of that analysis, none of requirements, criteria or limitation submitted by New York State were determined to be ARARs for the management units being addressed in this ROD. A final determination has not yet been made regarding the groundwater at the site.

Specifically, the standards found in 6 NYCRR Part 380 and 6 NYCRR Part 375 were not considered applicable because the regulations expressly exclude the material found at Linde, which the NRC has indicated is byproduct material for which no NRC license is required, from the universe of materials regulated. 6 NYCRR Part 380 does not apply to radioactive material whose receipt, possession, use, transfer, and disposal is not subject to general or specific licensing and regulatory control pursuant to the regulations of the NRC or a licensing agency of an agreement state and 6 NYCRR Part 375 excludes source, special nuclear and byproduct materials from the definition of solid and hazardous waste.

In addition, the regulations in both parts are not relevant and appropriate because they do not address situations sufficiently similar to the circumstances of the release or remedial action at Linde and are not well suited for the site. The standards found in 6 NYCRR Part 380 establish standards and the permit process for the future disposal of licensed material into the environment. The standards found in 6 NYCRR Part 375, provide a procedural framework for the implementation of the New York solid and hazardous waste law. Neither part specifically addresses substantive remediation standards pertaining to the radioactive materials found at the Linde site.

The standards found at 10 CFR Part 20 were also evaluated. After a careful analysis, it was determined that the regulation was no applicable and that 40 CFR Part 192 and 10 CFR Part 40, Appendix A, Criterion 6(6) are most relevant and appropriate to the circumstances at the Linde site. The adoption of 40 CFR Part 192 then precluded the use of 10 CFR part 20 pursuant to 10 CFR 20.1401 and 62 Fed. Reg. 39058, at 39073, July 21, 1997.

USACE also evaluated other criteria and documents to determine, in its discretion, if it was appropriate to consider them TBCs. After careful analysis, it was determined that ARARs did exist for the site making it unnecessary to consider those criteria and documents as TBCs. Rather, they would be used as reference material in the course of conducting the remedial action.

The remedy proposed for the Linde site properly reflects the ARARs analysis conducted by USACE and will meet all requirements, criteria or limitations found to be applicable or relevant and appropriate.

- 5.11.3 The groundwater at the Linde Site is not being addressed in the ROD. In response to comments from the state, additional sampling and analysis will be conducted before a final remedy is proposed, if necessary. At that time the ARARs for groundwater will be addressed.
- 5.11.4 DOE had established a cleanup level of 60 pCi/g total uranium at the Tonawanda site under the authority of DOE Order 5400.5. DOE Order 5400.5 sets forth a method to derive a dose-based uranium cleanup level. The USACE is conducting FUSRAP cleanups under CERCLA, which is a different regulatory authority. Under CERCLA, use of ARARs and risk-based levels for cleanup criteria, when appropriate, is a standard practice.

At the time that USACE issued its plan, no ARAR existed that addressed several areas at Linde that exhibit elevated uranium levels, with little radium and thorium. To derive a cleanup standard for those areas, the USACE used a risk-based method under CERCLA, which resulted in a cleanup level for total uranium of 600 pCi/g. Cleanup to this level will result in cleanup to a risk level of less than 1×10^{-4} , which level is well within the acceptable risk range under CERCLA.

On June 11, 1999, an amendment to 10 CFR Part 40, Appendix A, Criterion 6(6) became effective that addresses such situations. USACE has found that regulation to be relevant and appropriate. USACE will now remediate the site so that the remaining byproduct material containing concentrations of radionuclides other than radium in the soil does not result in a total effective dose exceeding the dose from cleanup of radium contaminated soil to the benchmark dose and must be at levels as low as reasonably achievable.

- 5.11.5 The ROD identifies and summarizes all prior actions taken at the Linde site by DOE and USACE and the results of those actions. A more detailed explanation of each can be found in the referenced documents located in the administrative record.

Each of the actions taken contributed to the efficient performance of the long-term remedial actions proposed at the site and did not cause the preclusion of a remediation alternative. Each of the actions met the cleanup guidelines set forth in the appropriate EE/CA or NEPA analysis. At that time, no final determinations regarding ARARs had been made.

This ROD addresses all areas of the Linde site, excluding Building 14 and the groundwater, and the remedy selected will ensure compliance with the ARARs at all locations, including areas previously addressed through interim actions.

- 5.11.6 USACE has, and will continue to, dispose of all material removed from the Linde site at a property licensed or permitted facility. In addition, all required notifications will be made.

In order to insure that the disposal of material is done in conformance with the applicable laws and regulations, prior to shipment, each type of material will be carefully analyzed and appropriately classified. USACE will then provide the information to the receiving facility and require that they provide a written assurance from facility's regulator that the material can be disposed of in that facility.

Regarding the material previously shipped from the Linde site, the NRC has expressly said that the material is "by-product material" that does not required a license for handling from the NRC. In addition, the NRC has clearly stated that they have no NRC rules or regulations that preclude the disposal of the material in a RCRA disposal facility.

- 5.11.7 USACE has carefully followed the NCP during both removal actions and the final remedial action selection process and will continue to do so. USACE also believe that the permit waiver provisions of Section 121(h) of CERCLA apply to the Linde site.
- 5.11.8 One component of the community acceptance criterion is issuing the Proposed Plan for public comment. Once the USACE receives comments, it can assess whether the community accepts the Plan or would like to see it changed. Community acceptance is a modifying criterion, in that it can be used to modify the final remedy selected. It often is not evaluated or assessed until after receipt of comments on the Proposed Plan.
- 5.11.9 USACE has carefully considered all comments received regarding the Proposed Plan and determined that no decision will be made concerning the final remedy for groundwater and Building 14 at this time. Instead, both issues will be assessed further and be the subject of a future ROD process. USACE has further determined that it is not necessary to issue a new proposed plan before going forward with the remaining portions of the preferred alternative as described in the Proposed Plan released March 26, 1999. A new proposed plan is unnecessary since no changes are being made to the those remaining portions of the preferred alternative and the public has had an ample opportunity to comment on them.

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ATTACHMENT 1

PUBLIC MEETING COMMENTS

April 22, 1999

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U.S. ARMY CORPS OF ENGINEERS

BUFFALO DISTRICT

LINDE FUSRAP SITE

PROPOSED PLAN PUBLIC MEETING

APRIL 22, 1999

LIEUTENANT COLONEL MARK D. FEIERSTEIN,
Commander, Buffalo District
U.S. Army Corps of Engineers

MINUTES OF PUBLIC HEARING, held at
Holmes Elementary School, Tonawanda, New York,
on Thursday, April 22nd, 1999 at 7:00 PM
pursuant to notice.

1 LIEUTENANT COLONEL FEIERSTEIN: Good
2 evening, ladies and gentlemen. My name is
3 Lieutenant Colonel Mark Feierstein. Welcome to
4 the FUSRAP Linde site public meeting.

5 The purpose of this meeting is to layout to
6 you our proposed plan for the remediation of the
7 Linde site and to obtain your comments. We
8 believe that an important part of project
9 remediation execution is to hear all of your
10 concerns, take all those concerns into account
11 into the final plan so that when we actually go
12 to execution we can execute the best possible
13 plan.

14 The system we have setup for making the
15 official comments, and we have a Court Reporter
16 here recording them, is if you want to make an
17 official comment on the record you need to have
18 filled out a card. If you want to make an
19 official comment on the record and have not
20 filled out a card, please raise your hand and
21 Mary Grace Quinn of my Public Affairs Office
22 will give you a card.

23 Is there anyone here who wants to make an

1 official comment on the record who has not yet
2 filled out a card? Okay, good. What we will do
3 with all of the official comments on record is
4 respond to those in writing. That would be part
5 of the record of this remediation.

6 You have until the 27th of May to get all of
7 your comments to us. We've extended the comment
8 period by 30 days at the request of Congressman
9 LaFalce and CANiT, so you can either get your
10 comments into us tonight verbally or they need
11 to be postmarked by the 27th of May.

12 In order for this meeting to proceed
13 efficiently and not get hung up, we ask that you
14 cooperate and allow us to impose this meeting
15 protocol. What's going to happen is first the
16 project manager, Ray Pilon, is going to brief
17 you on the remediation plan and our
18 recommendation.

19 Then we're going to take a break. Then
20 we're going to have that comment period I talked
21 to you about. Then we're going to take a
22 break. Then there will be an informal question
23 and answer session, but I ask you to speak one

1 person at a time.

2 Arlene from my Public Affairs Office is
3 going to call on you in the order in which you
4 submitted your cards and we ask that you limit
5 your comments to five minutes per person to
6 allow everyone a chance to get to speak their
7 portion, speak their mind. That's pretty much
8 the agenda.

9 As far as informal questions and answers,
10 like I said, we're going to do that last. It
11 doesn't mean we're not going to allow any
12 discussion at all during the presentation. If
13 there are a couple of contentious issues, we may
14 get into a little discussion during those, but I
15 would prefer to keep to the program.

16 Otherwise, it makes the process less
17 efficient, but we will stay here to answer
18 questions and talk to you and address concerns
19 for as long as you like. There is no time frame
20 as far as we're concerned. We're here for you
21 and, like I said, we believe that we should keep
22 you totally informed of everything we're doing.

23 There are no hidden agendas. Everything is

1 open and above board. I'm here for as long as
2 you want us here and if you want us to come back
3 again let me know and we can do that, too. We're
4 here for you.

5 Before I turn this over to Ray, let me
6 introduce the members of the FUSRAP team that we
7 have here. First, George Brooks. He's the
8 deputy district engineer. He's my deputy for
9 programs and project management.

10 We have Tim Burnes who is the overall FUSRAP
11 project manager, Buffalo District. We have Tom
12 Hempfling from our division headquarters. He is
13 the FUSRAP point of contact at the division
14 level. We have Ray Pilon who is the Linde
15 project manager.

16 We have Tom Kenna who is the Linde project
17 engineer. We have Michelle Barczak from our
18 Office of Counsel. We have to bring a lawyer.
19 We have a lot of other -- where is Arlene?

20 Nancy Stick from public affairs. Mary Grace
21 is back there. We have Frank Stevenson. We
22 have all sorts of folks from the district, but
23 these folks up here are the primary people

1 involved in the Linde project and I'd rather not
2 take up any more of your time rambling on and
3 turn it over to the project manager, Ray Pilon.

4 MR. PILON: Thank you. I'm wearing a mike.
5 It sounds like you can hear me okay. A couple
6 of people we missed. We have some consultants
7 here, George Butterworth and Frank Stevenson,
8 from SAIC. They're part of our team so I'd like
9 to acknowledge them and there's some familiar
10 faces in the crowd.

11 I see the Supervisor from Tonawanda here,
12 Carl Calabrese. Welcome. Two gentlemen from
13 CANiT, the Coalition For Nuclear Waste in
14 Tonawanda, or against nuclear waste. Some
15 gentlemen from Praxair, Dennis Conway and Tom
16 Duggan and Jim Rafferty. Jim is new to the
17 Praxair team.

18 I've been dealing with Praxair for about a
19 year and a half now. We started in
20 October, '97. What I plan on presenting tonight
21 is a history of the former Linde site. It's now
22 under Praxair ownership. I'm going to describe
23 the studies that we've completed, show you where

1 we found contamination.

2 It's confirmed. We know where it is. We
3 want to go clean it up. I'd like to explain the
4 CERCLA requirement. That's the law that gives
5 us the authority to do the cleanup. The
6 alternatives. We've investigated the schedule
7 and then we'll take your comments.

8 This is a time scale. I mentioned the
9 CERCLA authority. What that authority does is
10 it limits us to do specific things. We're not
11 allowed to go and cleanup everything. It
12 directs us to clean up the MED waste. MED
13 stands for the Manhattan Engineering District.

14 That was back in the early 1940's they came
15 in and used the former Linde facilities to
16 process uranium. In 1974 FUSRAP, Formerly
17 Utilized Sites Remedial Action Program, that was
18 developed by predecessors in 1974 and six years
19 later the Linde site was designated an official
20 FUSRAP site, so we have been studying that site
21 since 1980 in detail.

22 In 1997 Congress passed an Appropriation Act
23 and it directed the Corps of Engineers to become

1 the lead agency for FUSRAP. That was, like I
2 say, in October of 1997. We have been there
3 since.

4 We've done numerous studies. Our
5 predecessors, the Department of Energy, was here
6 back in 1993. They published a number of
7 studies; remedial investigation, feasibility
8 studies, baseline risk assessments. They came
9 out with a proposed plan.

10 When they presented that to the public there
11 was some public outcry from the community. As a
12 result of that, there was some commitments made
13 to take any contaminated material outside of New
14 York State. That commitment remains with the
15 Corps of Engineers.

16 Give us a minute. We have some technical
17 difficulties. I can continue a little bit. I
18 was talking about the studies that the
19 Department of Energy did. I'll continue on as
20 Pete is bringing the slides back up.

21 I did talk about the 1993 studies done by
22 the Department of Energy. When they came out --
23 I mentioned the public outcry. Since then

1 the Corps of Engineers since 1997, we have been
2 taking over the investigations.

3 We've completed ground water studies of
4 volatile ground water work that was down at
5 Linde. There was a well report published that
6 identified what Linde and the MED activities did
7 as far as ground water goes.

8 We have done a radiological assessment.
9 We've produced an addendum to the former
10 feasibility study that was produced. We've
11 created a proposed plan. These have all been
12 published in 1997. They've been given to the
13 State of New York.

14 We're dealing right now with the Department
15 of Environmental Conservation and they've been
16 provided to CANiT and the town. Okay. This
17 last item, the proposed plan, is the reason why
18 we're here and I'd like to say this is really a
19 great day for Tonawanda and the community and
20 for Praxair because we're proposing to remediate
21 the contamination within the federal guidelines.

22 When we're done the site will be considered
23 clean for federal release with no radiological

1 restrictions except for the area below Building
2 14 and I will go into a little more detail on
3 that, but as part of a commitment we're going to
4 take the contaminant material outside of New
5 York State and dispose of it in a licensed
6 disposal facility that's permitted to take it.

7 If we get this back online we can go back to
8 the slides. I'll continue the presentation.
9 Actually, I need the next slide because it's a
10 map showing where the contamination is on the
11 site.

12 So you know, we have some historical
13 photographs on posters in the back of the
14 building. There's a description of the proposed
15 plan, what's required as far as excavation of
16 soils. There's a number of buildings that will
17 be demolished. Building 57. There's a number
18 of them. We can explain that as we go.

19 The exception to our proposed plan or the
20 preferred alternative is to keep Building 14 in
21 place. Building 14 has been remediated and it's
22 safe to work in. Maybe we should take a five
23 minute break or so.

1 (Recess taken)

2
3 MR. PILON: Okay. It looks like we have
4 a backup computer that will get us through
5 this. Before we had the problem I described the
6 investigations that were completed. The
7 reports produced by the Corps of Engineers in
8 March of '99 include the injection well
9 report, the radiological assessment, addendum
10 to the feasibility study and the proposed
11 plan.

12 We mentioned that we know where the
13 contamination is and those people who are not
14 aware of what the facility looks like, this
15 Praxair facility includes about 105 acres. Some
16 of the main buildings for those who do work
17 there or are familiar with it, Building 30 is
18 right here.

19 That was demolished this past year. We took
20 it down last fall. Building 31 there is active
21 work going on by Praxair tenants. Building 14
22 is right there. That's a research and
23 development building that Praxair uses and

1 there's a Conrail track that runs along the east
2 side.

3 Sheridan Drive is along the north here and
4 over in here is the Sheridan Park golf course
5 and just where the park facility is. The school
6 we're in is located just to the west here so
7 that will give you a general layout.

8 Tonawanda has town garages down on Woodward
9 Avenue here. That's basically the layout. The
10 blue areas identified on this map, this right
11 here is the Conrail tracks along the east.
12 Sheridan Drive is up here.

13 We broke this down. We've blown it up so
14 you can make some sense out of it, but basically
15 the contamination exists in the areas along the
16 parking lot. When you drive in along East Park
17 Drive there's some areas in here.

18 Building 30 slab is right here. That's been
19 X'd out because the building is gone. There's
20 also Building 38 and 39 that's been demolished.
21 31 is here. There is contamination along
22 Building 57, so we're going to show you some
23 blowups of this map right here.

1 As I mentioned, coming into the entrance of
2 Praxair, there's a lawn area and some spots and
3 a parking lot and along the east side here is
4 right along the edge of Building 30 and Building
5 70. Those are the areas in the northwest
6 quadrant of the property.

7 The northeast area is where most of the
8 contamination exists. There were five buildings
9 that the Manhattan Engineering District used and
10 Buildings 30, 38, 39, 57 and 31 and also
11 Building 14 that's in the next slide.

12 There's contamination that spread beyond the
13 fence line into the Niagara Mohawk right-of-way
14 and along Conrail that is included in the
15 proposed plan.

16 Okay. This is south of Building 30. Right
17 here is Building 14. There is contamination
18 below Building 30. It's inaccessible, or
19 Building 14 I must say. It's inaccessible right
20 now. We've just completed decontamination of
21 that building last September.

22 The interior of the building has been
23 cleaned up and right now for the proposed plan

1 one of the alternatives is to tear that building
2 down and excavate the soils, and I'll talk about
3 the alternatives in a minute.

4 I mentioned to you that the Corps of
5 Engineers is working under a law. That law is
6 commonly termed CERCLA. It stands for the
7 Comprehensive Environmental Response
8 Compensation and Liability Act.

9 Under that act there's nine criteria that
10 are used to evaluate alternatives. If we go
11 clockwise from -- say this is number one. This
12 is the most important one, the protection of
13 human health and the environment.

14 Compliance with ARAR's, Applicable and
15 Relevant Appropriate Regulations. Those are the
16 two major ones. These next five are evaluated
17 for long-term effectiveness, short-term impacts,
18 reduction in toxicity, mobility,
19 implementability and cost.

20 The last two are state and community
21 acceptance. We have to work within the confines
22 of the law. We're not allowed to go beyond that
23 law.

1 The contamination we found
2 ... deal with Manhattan Engineering
3 District is basically thorium, radium and
4 uranium. For us to develop a cleanup standard
5 we went to the ARAR's, which I talked about
6 those are applicable federal and state laws and
7 regulations.

8 What's been identified as the ARAR that we
9 will cleanup to is 40 Code of Federal
10 Regulations, Part 192. That's the law that
11 we're using to clean up the radium and thorium.

12 Now, this law is deemed protective by the
13 EPA and that's the federal requirement. The
14 uranium contaminant is not covered by 40 CFR
15 192, so for us to come up with a proposed plan
16 and remedial action plan we had to develop a
17 guideline on what to cleanup to and what that
18 evaluation entails is a risk based assessment
19 and what we've done is we've identified the
20 cleanup level for uranium to provide the same
21 level of protection as the ARAR based cleanup
22 criteria for thorium and radium, so the
23 protection on both the uranium, thorium and

1 radium are equal.

2 This is the goals for us to cleanup to. We
3 measure the contamination in a unit called
4 pico-curies per gram in soils. For us to
5 achieve the cleanup we have to clean up the
6 radium to 5/15, 5 being the first six inches of
7 soil and 15 below that.

8 The uranium cleanup criteria based on a risk
9 based valuation is 600 pico-curies per gram.
10 We've put a box next to that to show what the
11 dose equivalent is for 600 pico-curies per gram
12 and that's less than ten millirems per year.

13 To put that in perspective, everyone in this
14 building is exposed to radioactivity. Normal
15 dose levels for the average person is 360
16 millirems per year in the Buffalo area. If you
17 lived in Denver it's in the 400 and some range.

18 We've evaluated Department of Energy
19 Guidance, Nuclear Regulatory Commission
20 Guidance, New York State Guidance and the
21 cleanup criteria that we're using right now, the
22 on-site worker at Linde once we're done cleaning
23 up will be exposed to less than 6 millirems per

1 year in unit eight which is around the Building
2 30 slab.

3 This is based on an averaging of the site so
4 that can give you an idea for a comparison of
5 what the millirems per year are. Everybody gets
6 around 360 in this area. The alternatives we
7 considered as part of the CERCLA process, we
8 always consider no action. That's do nothing
9 and just monitor the site.

10 The cost associated with that for long term
11 monitoring is about \$900,000. The alternative
12 number two is the preferred alternative that's
13 in blue and that basically calls for excavation,
14 decontamination and placing institutional
15 controls primarily at Building 14.

16 As I said, there's contamination below
17 Building 14 that's inaccessible and it poses no
18 risk as long as nobody goes into the subsurface
19 of the building which is highly unlikely until
20 somebody decides to knock that building down.
21 Institutional controls will be in place.

22 The cost at this point currently for this
23 proposal is \$28 million. The other alternative

1 we considered was the same excavation and
2 decontamination as the previous alternative with
3 the exception of tearing Building 14 down and
4 excavating soils under that building.

5 The preferred alternative as identified in
6 blue does meet the 40 CFR criteria and it does
7 meet the risk based evaluation of 600
8 pico-curies per gram in Building 14, so the
9 guidelines that's been established reach the
10 requirements of the federal government.

11 The schedule right now is we've extended the
12 comment period another month. Comments were
13 originally scheduled to be closed on April
14 27th. We're going to go to May 27th. We're
15 hoping to get a record of decision signed in
16 July.

17 Before we sign a record of decision any
18 comments that are received or presented at this
19 meeting or submitted in writing to us must be
20 properly addressed and will be produced in a
21 summary. That will be part of the record of
22 decision and if we can continue on that schedule
23 we should be getting excavation, cleaning up of

1 the site this summer.

2 Our ultimate goal is to have this job done
3 at the end of fiscal year 2000 which is the end
4 of September and right now we believe that's
5 achievable.

6 In conclusion, the Corps of Engineers has
7 evaluated the site. We've looked at previous
8 studies. We've looked at new data. We've
9 developed a proposed plan based on federal and
10 state laws and regulations. The plan is
11 protective to human health and the environment
12 and the community acceptance is what we're here
13 to gain now.

14 It can be done in a timely manner. We'd
15 like to finish this stuff up and have it over
16 with at the end of next year. Like I say, this
17 is a good day for Tonawanda. We have a plan in
18 place. We're ready to go do the work and I
19 guess we'll turn it over to you to talk and give
20 comments.

21 I'll turn this over to Colonel Feierstein.
22 He can close out.

23 LIEUTENANT COLONEL FEIERSTEIN: Would you

1 like to go straight into the comments or do you
2 want to take a break? We'll go on, okay. First
3 let me recognize Rich Tobe and Carl Calabrese
4 from CANiT. I neglected to do that earlier.
5 They are from the Coalition Against Nuclear
6 Waste in Tonawanda and Congressman LaFalce meets
7 regularly with us and we work very closely.

8 They to a large extent are the conscious of
9 the community and we work very closely with them
10 to try to move the program forward to make sure
11 that all public concerns are addressed, but in
12 addition to that we do bring things directly to
13 the public and, again, if you filled out a card
14 we're now going to take those -- we're going to
15 take those comments from you in the order in
16 which you turned in your cards.

17 If you would still like to make a comment
18 and you haven't filled out a card you can still
19 raise your hands and one of my public affairs
20 officers will give you a card and you can fill
21 that out.

22 After we go through the official comments
23 which are being recorded or which will be

1 recorded by the Court Reporter, we will take a
2 break and then have an informal question and
3 answer session. Who has the cards? Okay.

4 MS. KREUSCH: I will be calling you in the
5 order that I received the cards except for the
6 public officials. I'll be calling them first.
7 Mr. Richard Tobe will be speaking for
8 Congressman LaFalce's office and also for
9 CANiT.

10 MR. TOBE: Good evening and thank you.
11 First, on behalf of Congressman LaFalce who had
12 hoped to be here tonight but could not, he's
13 otherwise engaged, Congressman LaFalce sent a
14 letter to Colonel Feierstein dated April 22nd.
15 They've asked me to read this letter and I'll do
16 that.

17 Dear Lieutenant Colonel Feierstein, I am in
18 receipt of the Proposed Plan for Remedial Action
19 at the former Linde site. While I have not had
20 enough time to discuss the full range of
21 implications that would result from the
22 implementation of this proposed plan with
23 CANiT's technical consultant, I do have grave

1 immediate concerns about the proposed
2 remedial action criteria of 600 pico-curies per
3 gram of uranium-238.

4 I am deeply disturbed by the prospect of
5 increasing the criteria from the agreed upon 600
6 pico-curies per gram which is currently being
7 used for remedial activities. As you know, my
8 number one concern throughout this multi-stage
9 FUSRAP program has been the absolute protection
10 of the health and safety of the residents and
11 the environment.

12 I insist that no action be taken that
13 compromises the public health. I want
14 assurances from the U.S. Army Corps of Engineers
15 that any proposed remedial action plan meet with
16 full consensus of the areas stakeholders. We
17 have labored long and hard to achieve agreement
18 by all parties regarding Tonawanda FUSRAP
19 remediation and any future cleanup activities
20 should follow the same rigorous consensus
21 building.

22 The employees of Praxair, the residents of
23 Tonawanda and future generations deserve nothing

1 less. Thank you for agreeing to my request for
2 an extension of the public comment period. I
3 look forward to a response to my concerns.
4 Sincerely, John LaFalce, member of Congress.

5 A copy of this letter has been turned into
6 the Court Reporter and Lieutenant Colonel
7 Feierstein has a copy. There's also several
8 copies available with Paul Krantz from the
9 Department of Planning.

10 If anyone wants a copy please feel free to
11 ask for it when we're done. I have also on
12 behalf of CANiT sent a letter to the Corps of
13 Engineers to Lieutenant Colonel Feierstein. A
14 copy of that was also turned into the Court
15 Reporter.

16 As John LaFalce did, we asked for an
17 adjournment or an extension of the comment
18 period to allow us to better understand and
19 analyze the proposed activities. I'm very
20 pleased that that extension has been granted and
21 thank you for that. Our request came in late
22 and you reacted promptly and we very much
23 appreciate it.

1 I think it will make for a better
2 opportunity for CANiT to provide comments. The
3 reason we requested the delay was there was only
4 30 days made available for comments and those
5 fell over recesses for Congress, the county
6 legislature and the state legislature, all
7 participants in this process, and virtually
8 everybody involved was out of town for at least
9 a portion of that period.

10 Additionally, CANiT's technical consultant,
11 MJW, had had its contract expired and had not
12 yet been renewed. Happily, that's now been
13 renewed and I want to again thank the Corps of
14 Engineers for an extraordinary effort to allow
15 that to happen.

16 It will allow us to take the scrutiny that's
17 required, but their contract was only renewed
18 yesterday so we need more time. Finally, we
19 have some pretty serious concerns about the
20 proposed action. We think that they also will
21 take some time to what we are proposing to do.

22 What CANiT is proposing to do is to have a
23 CANiT meeting which is now scheduled for April

1 27th at 1:00 PM at the Phillip Sheridan school
2 in Tonawanda. At that session we'll hear from
3 our consultants, discuss this and prepare final
4 comments that we will submit before the May 27th
5 deadline.

6 I can make some preliminary comments now
7 primarily in the way of expressing concerns
8 rather than final opinions, but we're honing in
9 on these issues and we want to raise them now.

10 We'll finalize our comments after we've met
11 with our consultants and had a meeting and heard
12 from all the CANiT members which has not yet
13 occurred, so I'll go through the comments fairly
14 quickly.

15 First, we did hear something about this
16 tonight, but we do request a statement from the
17 Corps regarding the policy for state concurrence
18 and community acceptance. That was a policy
19 that the U.S. Department of Energy had when they
20 were managing this process and I was actually
21 pleased tonight to hear that the CERCLA process
22 provides that same type of involvement for our
23 community.

1 That will involve both state acceptance of
2 the proposed plan and a requirement that there
3 be community acceptance. We think CANiT not
4 alone but in large part speaks for the community
5 and we hope and expect that the concerns as we
6 raise them will be given the consideration which
7 they deserve.

8 We, of course, urge others to speak also.
9 The goal of CANiT itself has been to have a
10 cleanup activity that would allow the
11 implementation of the Tonawanda master plan.

12 Carl Calabrese I'm sure will speak to that,
13 but we are concerned that the Corps' proposal
14 may not allow for the full implementation of
15 that master plan, but we will require
16 institutional controls on the site.

17 It's a matter of concern for us and we will
18 be dealing with it in more detail later. We
19 have a very serious concern about the proposed
20 cleanup standard of 600 pico-curies per gram of
21 uranium-238.

22 I don't want to go into the details of that
23 now other than to say that it is higher than we

1.2.5

1 expected, significantly higher, and we want to
2 understand what the impacts are both over the
3 long-term and short-term and we want to be sure
4 that the 10 millirem standard for exposure to
5 workers on the site and to the visiting public
6 will not be exceeded.

1.2.6

7 It's going to take some time to get through
8 all the calculation that's led to the 600
9 pico-curies standard. We have some very serious
10 reservations about how the Marsom techniques
11 were used, both how the averaging techniques
12 contained in this methodology can leave hot
13 spots on the site which could be a danger,
14 particularly to the average 600 pico-curies
15 instead of 60, and also because of what we have
16 heard about how it may have been applied at
17 Ashland 2.

18 We want to go through the Marsoms. We're
19 not sure we're comfortable with what has
20 occurred. This is a technique to determine if
21 the site has been properly cleaned up through a
22 sampling and statistical averaging.

23 Highly technical. I don't fully understand

1 it. I have an idea, but our consultants will
2 help us get through it. We're concerned how
3 it's applied at Ashland and want to be sure it
4 doesn't happen at Linde.

5 We also have been informed of the
6 requirement to obtain a license to possess
7 radioactive waste at the site after this cleanup
8 occurs. We're not sure that's the case, but
9 we're concerned about it and want to ask about
10 it and look into it. We don't think we want a
11 licensed disposal area here in Tonawanda after
12 the cleanup occurs.

13 We're very concerned about it. We believe
14 and concur with New York State that there's a
15 need for an independent verification contractor
16 associated with this cleanup effort. This is
17 the normal standard practice when civilian
18 activities are undertaken to cleanup waste.

19 We hope that the Army Corps of Engineers can
20 come to accept this. I know it's different from
21 what they normally do. Finally, we want to
22 review the cleanup effort at Ashland 2 to learn
23 from what's occurred. We've heard perhaps that

6.2.1

1 one radionuclide may not have been removed from
2 the site because it was not specifically
3 mentioned in the record of decision or because
4 it was not present in conjunction with a cleanup
5 criteria.

6 We hope this is not true and we hope
7 certainly it's not a final action, but we are
8 concerned with what we've heard. We don't want
9 to see a too ritualistic or rigorous or
10 mechanical processed applied to the cleanup at
11 Ashland 2 and we certainly don't want it applied
12 here at Linde, so we want to look into these
13 things.

14 We hope to hear from the Corps and also from
15 our consultant. In conclusion, those are areas
16 of concern. Final comments will be made after
17 the CANiT meeting. I want to again thank the
18 Corps for the extension of time. Thank you for
19 holding this session and thank them for making
20 our consultant available again and I'm sure
21 there will be a way we can work this out
22 together.

23 MS. KREUSCH: Carl Calabrese, Supervisor,

1 Town of Tonawanda.

2 SUPERVISOR CALABRESE: Ladies and gentlemen,
3 any of you who have followed this issue of
4 nuclear waste in Tonawanda going back many years
5 have seen me at these meetings and you know that
6 the prior government agency, federal government
7 agency that handled this, the Department of
8 Energy, succeeded in doing something that you
9 normally don't see from me and that is massive
10 losses of temper at some of these meetings.

11 I have attended these meetings with the
12 Department of Energy and found myself shouting
13 and pointing my finger. They really did make me
14 angry. They're gone now and I have to say that
15 I'm not so sure if this is a good day for the
16 Town of Tonawanda because of some concerns that
17 have been raised the last couple of days.

18 I am not ready to lose my temper yet. We've
19 had a good working relationship with the Corps.
20 We have actually moved dirt out of this town,
21 some 45,000 cubic yards of it last year. I was
22 optimistic that we will continue that program,
23 but I do have some very serious areas of concern

1 and reservation from information that has come
2 to my attention and the attention of CANiT just
3 in the last number of days.

4 This is a special site, the Praxair site,
5 because it's home to hundreds of workers each
6 day eight to ten hours, sometimes longer. It
7 borders this school and this neighborhood and
8 any solution, any cleanup plan that has
9 radioactivity that approaches any type of
10 dangerous doses to our residents and our workers
11 is unacceptable to me.

12 We are going to be very careful along with
13 our technical consultants to make sure that line
14 is not crossed. Secondly, as Mr. Tobe
15 mentioned, any cleanup plan that requires the
16 Praxair plant to receive a radioactive license
17 for what's left behind is absolutely
18 unacceptable.

19 We will essentially be agreeing to a low
20 level nuclear waste site in this town and that
21 was unacceptable going back to 1988, '89 when
22 the Department of Energy first proposed such a
23 plan. The Ashland 2 site along River Road, the

1 agreement we had with the federal government
2 clearly said that a final cleanup plan would
3 leave us, a community of the Town of Tonawanda,
4 with land along the river that could be
5 developed.

6 Now, if any material has been left behind at
7 the Ashland 2 plant that exceeds standards, and
8 what I'm hearing now, and again I want to give
9 the Corps the benefit of the doubt and have a
10 face to face meeting with them and prove these
11 concerns unfounded, but if it's true that
12 material has been left behind and the solution
13 is to fence that off, we will not have a piece
14 of land that can be developed and therefore we
15 will have a breaking of the agreement that we
16 thought existed and that will be unacceptable
17 and just I want this on the record.

18 The Corps was planning to have a final
19 cleanup ceremony at the Ashland 2 site sometime
20 in May showing the clean dirt coming in and
21 filling in and symbolic of the fact that the
22 land has been cleaned up.

23 If there's any doubt in my mind that that

1 land cannot be developed because of material
2 left behind, I and the town board will not
3 participate in any type of ceremony of that
4 sort. That will be nothing but a sham and I
5 will have no part of it, so I want to hold my
6 anger and give the Corps a chance to answer our
7 concerns face to face because they've been very
8 good about that up to this point, but I
9 guarantee you if those concerns are not answered
10 I will be back and I may lose my temper. Thank
11 you.

12 LIEUTENANT COLONEL FEIERSTEIN: As I said,
13 we're going to address all of those concerns and
14 we're going to do so in writing and make it part
15 of the public record and I believe we can
16 satisfactorily meet all of your concerns on
17 that.

18 MS. KREUSCH: We also have a portable mike
19 tonight, so if anyone would like to just have
20 someone come to you with the mike, just stand
21 when I call your name and Terra will bring the
22 mike to you. If you're representing an
23 organization tonight also I would like you to

1 identify the organization that you're
2 representing. Next we have Mr. Ralph Krieger.

3 MR. KRIEGER: I think everybody can hear
4 me. I don't think I need a mike. I was a
5 former president of the OCAW 215 Praxair. We're
6 no longer there. The union is gone off that
7 property. However, I'm still president of
8 F.A.C.T.S.

9 We and CANiT had a long -- two peas in a
10 pod, you might say. But, there is one thing
11 we're in agreement on. There is no acceptance
12 of leaving any nuclear waste in this community
13 that has the potential down the road to life in
14 this area to our children and I have said this
15 before.

16 That is important. The future are these
17 children. When they grow up are they going to
18 dig up something that was left there some fifty
19 odd years ago? I don't think that's fair to
20 them. I think it's our obligation to make sure
21 that it's cleaned up to the standard it was
22 supposed to be.

23 If it's not, there's another problem. Who

1 is going to be responsible? The Corps of
2 Engineers is not responsible. He is not
3 responsible. Of course, not responsible. All
4 they are responsible for is cleaning up.

5 They are not responsible for the material.
6 That is the Atomic Energy Commission and the
7 NRC. That lawsuit is as good as the day it was
8 written by F.A.C.T.S. That is before Judge
9 Elfvin now. Judge Elfvin let that go that we
10 could -- they could cleanup, but at the end of
11 the cleanup if it isn't cleaned up to what it's
12 supposed to be cleaned up to, F.A.C.T.S.'
13 lawsuit will be generated.

14 The community is going to be protected
15 because we are not going to back off on that
16 lawsuit. I can tell everyone right here, the
17 God's honest truth, it's not going to happen.

18 This community has lived with this
19 radioactive contamination for over fifty years.
20 Everybody knows the cancer rates in this area.
21 I know better than anybody else. I have had
22 hundreds of workers die of cancer. I had one
23 just recently die of cancer. I have got another

1 one that had half his lung removed and another
2 one trying to get his tumor reduced so they can
3 do something with it.

4 Three men. That's not going to happen in
5 this community. It happened to the workers. We
6 lost that suit in compensation because we
7 couldn't prove it because the government came in
8 and said it doesn't happen.

9 Well, that's not over yet either, but this
10 community can understand that F.A.C.T.S. is not
11 going to back off the position that we've taken
12 all along that this has to be cleaned up, that
13 no nuclear signs are hanging on any fences
14 anywhere in this community and that's including
15 the Lake Ontario ordinance works where a lot of
16 that effluent went from the Linde site.

17 I think that's fair to the community and I
18 don't think this community has to put up with
19 that situation, especially in light of the job
20 losses that we have in this area, the brown
21 fields that we have in this area.

22 Bethlehem Steel. Now they're going to tear
23 down the airport. There was over 15,000 -- does

1 anybody understand? There was 15,000 people
2 worked at Westinghouse. Those jobs ain't there
3 any more. There was 20,000 worked at
4 Bethlehem. Those jobs ain't there any more.

5 There was 2500 people working at Republic
6 Steel. Those jobs aren't there any more. Good
7 paying jobs. I'm not talking about \$8.50 an
8 hour jobs. I'm talking about a living wage.

9 You can't get people coming into this
10 community if you're hanging up a sign saying
11 we've got nuclear waste dumps. We can't and we
12 won't live with it. Thank you.

13 LIEUTENANT COLONEL FEIERSTEIN: Put up the
14 slide that shows the comparison exposure that
15 was left on-site in the proposed plan versus
16 background. I don't want to mislead anyone here
17 and I want to be perfectly blunt and give you
18 the un-sugar-coated, unvarnished truth.

19 There is no way that all of the radioactive
20 material will be removed from this site. I'll
21 tell you why. Just our portion of FUSRAP alone,
22 the Buffalo district has eight sites. We have
23 six in Western New York and we have two in

1 Ohio.

2 We estimate that our program is going to
3 take until the year 2009 or 2010 to cleanup
4 those eight sites. We are obligated as a
5 government entity to follow the law. The law is
6 CERCLA and CERCLA defines what the cleanup
7 standards are.

8 Can you put up the slide that shows the
9 comparison of the millirems? Okay. Now, again
10 I'm not trying to be inflammatory. I just want
11 to tell you the hard realities of it.

12 One of the reasons why we're out here is to
13 educate you. This is going to be the amount of
14 millirems per year that the average on-site
15 worker at Linde would receive after the cleanup
16 that we are proposing is completed.

17 I'm not saying that's the cleanup we're
18 going to do. We're here to get your comments on
19 that, but if we execute that recommended option
20 that's how much additional millirems per year
21 the average worker is going to get.

22 Again, we're obligated to follow the law.
23 That's CERCLA. That defines how far down we go

1 in removing the thorium and the radium and we've
2 derived similar standards from those for the
3 uranium. If we cleaned up everything to
4 background level at this site then we may not be
5 able to do anything at any of our other sites.

6 I don't know what that would cost off the
7 top of my head, but either one or two of our
8 FUSRAP sites we can clean down to the background
9 level and then we would have no money to do
10 anything else.

11 Now, this is less than -- everyone in every
12 community would like to have every bit of that
13 removed. Again, we're obligated to follow the
14 law, so should we bring it down to what the law
15 says is an acceptable level or should we only do
16 one or two FUSRAP sites and leave everything
17 else in place?

18 Again, putting this in perspective, six
19 millirems per year, the average American already
20 gets 360, so in percentage terms we're talking
21 about an additional less than two percent a
22 year.

23 AUDIENCE MEMBER: Increase?

1 LIEUTENANT COLONEL FEIERSTEIN: Increase,
2 yes. Now, with the FUSRAP program for my
3 district I said there's eight sites. That's
4 about \$500 million for those eight sites.

5 Now, if we can get \$5 billion or \$10 billion
6 or \$20 billion, I don't know what it would take,
7 then maybe we could cleanup everything from
8 every site, but we have that to work with and we
9 have the law to follow.

10 Again, not to be inflammatory. I want to
11 tell you what our perspective is on this. Next
12 comment?

13 MS. KREUSCH: Thank you. Christine
14 Hausrath?

15 LIEUTENANT COLONEL FEIERSTEIN: Just to put
16 it in further perspective, I guess it depends on
17 the type of x-ray, but certain x-rays that you
18 get could be 10 millirems so, in other words,
19 you could get an x-ray, probably a chest x-ray,
20 maybe is 10 millirems.

21 You could get a chest x-ray and it would
22 give you more radiological exposure, a higher
23 dosage, than a worker on-site eight hours a day,

1 five days a week, fifty weeks a year. That's
2 what that is based on.

3 MS. HAUSRATH: Hi. I'm Chris Hausrath from
4 Hausrath Landscaping. I currently reside in
5 Amherst, but I grew up in the Town of
6 Tonawanda. I went to school right here at
7 Holmes. Ours was the first plant here.

8 I can remember a lot of neat things here,
9 but what I'll always remember the most is
10 daydreaming, watching the fellows cut the grass
11 and groom the grounds.

12 I was truly impressed and now with a 27 year
13 old business that my family and I own, I am
14 proud to say I am the groundsmaster at Praxair
15 as well as the groundsmaster at many other large
16 complexes and companies in not only the Town of
17 Tonawanda area, but throughout Western New
18 York.

19 My job is not only to work on the grounds,
20 it's to work with the grounds, whether it be
21 soil, plants, flowers or lawn mowing. I have
22 always kept in mind that Mother Nature is only
23 loaning us her ground and that they really

1 belong to her and that we should keep them safe,
2 healthy and beautiful for everyone to enjoy.

3 I have worked on Praxair's grounds for over
4 seventeen years grooming, planting, manicuring
5 and beautifying and while working closely with
6 Praxair personnel on many projects, I have
7 noticed and admired how sensitive they are to
8 the community as well as how very safety
9 conscious they are, and trust me when I say they
10 made darn sure this carries over to their
11 contractors.

12 I feel the Town of Tonawanda and its
13 residents are very fortunate to have Praxair as
14 not only a workplace in their community, but a
15 caring neighbor in a wonderful town.

16 I appreciate you're listening to me this
17 evening and again I look forward to our town
18 being a first rate suburb, a great place to
19 live, work and play and even though I don't
20 reside here any longer in residency, my roots
21 and heart still belong here. Thank you.

22 MS. KREUSCH: Keith Braun?

23 MR. BRAUN: Ms. Hausrath, with all due

1 respect, are you a spokesman for Praxair or
2 speaking on behalf of yourself? With all due
3 respect.

4 I'm not here speaking on behalf of any group
5 or organization. I'm here as one who grew up a
6 stone's throw away from this mess. Wonderful
7 plan. Great day for Tonawanda. You have to
8 understand the people who will now say that
9 Ashland and Linde sites will now be clean, but
10 the truth is this: It will never be gone.

11 Is a contamination really just limited to
12 the areas shown on the maps? I don't think so.
13 It's deep in the ground, leached into Two Mile
14 Creek, to the Niagara River and who knows where
15 else.

16 Why am I here? I grew up here on Desmond
17 and went to school here as a child. My mother
18 died a slow, agonizing cancer death just two
19 years ago and my father soon after that. It was
20 then that I began thinking of all the families
21 who have suffered death and disease on just one
22 block in this area.

23 Bobby Scalise, Warren Herr, Robert and Ruth

1 Braun, Cindy Delgato, the Herman family, to name
2 just a very, very few. Are these incidents
3 coincidence or clustered? I'm not a scientist
4 or a cluster investigator, but I'll let my
5 common sense be my guide.

6 Let me throw this in the works: What about
7 the incidents of leukemia cancers, breast
8 cancers in these neighbors? What about the
9 contaminated creek? What about the sludge
10 dredged from that creek and dumped on East Park
11 near St. Timothy's Church?

12 Why were those seven holes of the golf
13 course with the creek sold and the creek plowed
14 over and topped with a road? What about the
15 thousands of children that went to school here
16 including myself since the 1960's? What about
17 the countless numbers of people who have been in
18 or near that creek golfing or as children for
19 golf balls?

20 What about the health and well-being of
21 former and present Linde workers? What about
22 all the sick, suffering and dead families? What
23 about our children?

1 MS. KREUSCH: Thank you. Mr. Dennis Conroy?

2 MR. CONROY: I'm Dennis Conroy. I'm the
3 site manager of Praxair Technology Center. We
4 at Praxair feel that we have been good corporate
5 citizens for the past three and a half years,
6 fully cooperating first with the United States
7 Department of Energy and up to a year or for the
8 last year and a half with the U.S. Army Corps of
9 Engineers.

10 For both of these organizations we've
11 dismantled critical research and development
12 operations and impeded business operations to
13 give full and unrestricted access to the
14 potential areas of nuclear contamination.

15 Up to now we have been generally pleased
16 with the progress which has been made. At this
17 time, however, Praxair takes extreme exception
18 to what we feel is the unilateral establishment
19 of a 600 pico-curie per gram cleanup criteria
20 for uranium at our site.

21 We don't understand why the 600 pico-curie
22 level has been set so high when our experience
23 for the last three and a half years has been set

1 at 60 pico-curie and we have been led to
2 understand that the criteria for Colonie, New
3 York near Albany has been set at 65 pico-curie.

4 Now, Colonel, I'm an old soldier myself and
5 I'm not real pleased about the thought of taking
6 the same hill twice. It's happened before at
7 the site. In 1954 we were certified clean by
8 then the Atomic Energy Commission.

9 Twenty years later it was decided the
10 standards have changed and the Department of
11 Energy said that we had a problem at the site.
12 We don't want it to happen again.

13 I feel, Praxair feels, we run exactly the
14 same risk in accepting a 600 pico-curie standard
15 at this time. No margin of safety, no
16 flexibility in our operations and a probable
17 imposition of radiological licensing at our
18 site.

19 All we ask is we do the job once and we do
20 it right. Thank you.

21 LIEUTENANT COLONEL FEIERSTEIN: I want to
22 address something here and I'll go public saying
23 this and we'll address it formally in writing.

1 It's incorrect that the standard is 60
2 pico-curies per gram out in Colonie.

3 MR. CONROY: We were led to understand 35
4 pico-curie.

5 LIEUTENANT COLONEL FEIERSTEIN: That is being
6 done by the New York District which is part of
7 the Corps of Engineers and there is no standard
8 for that right now. There were several
9 standards that were set by Department of Energy,
10 but the Corps has not come up with what it's
11 going to recommend in the proposed plan for
12 that.

13 All those are old Department of Energy
14 standards and those have to be re-evaluated by
15 the New York District and then a standard will
16 be formed, but there is no standard that has
17 been determined yet for Colonie, so it's not
18 correct and what was the DOE standard for that?

19 I think it was 35 pico-curies to 100
20 pico-curies would be capped and above 100 would
21 be removed but, again, that was the Department
22 of Energy.

23 I can authoritatively state that and we will

1 confirm that in writing. We checked that out
2 before we came here. I will also say that in
3 the Corps of Engineers we do not go about
4 cleaning up to different standards on different
5 sites.

6 Yes, the radionuclides are different and the
7 site conditions are different, but to the
8 maximum extent possible, we clean the sites to
9 the same standards. We have an organization
10 called the CX, the Center Of Expertise, and one
11 of its primary functions is to ensure that the
12 cleanup standards are as similar as possible
13 given the varying contaminants and given the
14 varying site conditions.

15 So, you will not find -- you should not find
16 a case where there is a large variance in
17 cleanup standards. Again, let me remind you
18 what we're doing is following the law here and
19 we can go into the 600 pico-curies in more
20 detail if you want.

21 I'm happy to discuss that with you in the
22 question and answer session. I'd like to let
23 the people get their comments on the record, but

1 again, I will admit and I'll say this here. It
2 does sound high. 600 pico-curies per gram does
3 sound high and that is higher than the number of
4 pico-curies that we have here for the radium and
5 the thorium and when I first heard that number I
6 said what is going on here?

7 Then what I did was I got with my engineers
8 and I had them walk me through exactly where
9 that came from and why that is the case and just
10 suffice it to say, and we can go into more
11 detail in the question and answer session,
12 suffice it to say right now that it's not
13 something that directly correlates.

14 You can't just say 5 pico-curies of this
15 versus 600 of that. What is important is the
16 dosage, the millirems, the dosage that you --
17 that the human body will absorb from that
18 radioactivity which is measured in pico-curies.

19 That's the bottom line because your risk of
20 cancer is a direct function of the dosage.
21 That's why we're going off of -- that's why we
22 have the 10 millirem there, but again, I don't
23 want to take up people's time for comments.

1 We can talk more during the question and
2 answer session about that.

3 MS. KREUSCH: Okay. Ruby Bass-Earley?

4 MS. EARLEY: I thank you for this little bit
5 of time. My husband was at Union Carbide. He
6 and his men were moving out these rusty cans
7 that were leaking, burying them outside.

8 Within two weeks after they did this they
9 began to die. My husband died instantly in his
10 car driving to work. There were not too many
11 signs to be seen because this kind of material
12 is like an x-ray. It penetrates through. It
13 takes care of your body quickly.

14 I attended several meetings like this where
15 men who worked with him were dying. They're all
16 gone. I doubt if many of them are here tonight
17 and I'm sorry because their families have
18 suffered greatly. 22 years ago, 1977, my
19 husband died in the car going to work. He died
20 instantly following this contamination.

21 Many others died like him. You probably
22 haven't heard of this. It's very unfortunate
23 that you haven't. It's a very sad situation. I

1 was left with four young boys to finish sending
2 through college and raise. They missed their
3 father. They had a right to have him, but
4 because Union Carbide was so negligent this
5 happened.

6 Now, I know this happened because the night
7 before his funeral five officials from his
8 office at Union Carbide who were friends of his,
9 I doubt if they're there today, I haven't looked
10 to see, but this has been a sad situation for us
11 and I hope all of you who are concerned with it
12 including the gentlemen who are here tonight
13 giving us the right to have this hearing, it
14 won't help us, but many of us will have a sad
15 memory of Union Carbide and I am a teacher who
16 has had many years of science and to the best of
17 my ability and the research I have done and the
18 people I have spoken to tell me that that plant
19 should be locked up, forgotten and never gone
20 back.

21 You can bury that into the ground if you
22 want to and try to get rid of it. You'll never
23 get rid of it. It will be there a thousand

1 years. Do whatever you want to with it, but
2 it's a remembrance of what happened here. Thank
3 you.

4 MS. KREUSCH: Thank you. Mr. Don Finch?

5 MR. FINCH: Hi. I am treasurer of the
6 F.A.C.T.S. group, retired from Praxair
7 early '94. Been working on researching to find
8 out just what we're talking about here tonight.

9 I can't go too deeply into it right now, but
10 anyway I'm really pleased to see a pretty good
11 turnout of civilians, my former fellow
12 workers. It's been a long tough battle trying
13 to awaken the public to the fact that you don't
14 go out and spend millions of dollars on a non
15 problem which we were told in the beginning by
16 the DOE there's no problem.

17 The database at home on the computer has
18 over 200 names, Praxair workers. Most of them
19 are dead. There are some that are just now
20 getting their cancers. Latency period on cancer
21 of this type or not cancer of this type, but due
22 to low level radiation is 20 to 30 years.

23 Guess what? We finally hit the blossoming

1 time and there are cancers among the ex-workers
2 over there are starting to blossom. I thank
3 this young gentlemen back here and this lady
4 right here for what they had to say.

5 I'm sorry to get emotional, but this means a
6 hell of a lot to me. Should mean a hell of a
7 lot to your people's future generations.
8 Another quick thing. I'd like to thank Mr. Tobe
9 and Mr. Calabrese for their remarks. We're now
10 I feel all starting to come together locally.

11 What about the future? We can't be playing
12 around with this stuff. We can't be listening
13 to the no problem scenario. Ralph and I once
14 said we can't be too involved. We're too busy
15 going to the cemetery digging graves for people
16 to be buried. Thank you.

17 MS. KREUSCH: Mr. Thomas Schafer?

18 MR. SCHAFER: Hi, everybody. I'm Tom
19 Schafer. I'm also an ex-worker of Linde
20 Air/Union Carbide. I started there when I was
21 18 years old right out of Kenmore West.

22 I have lived here all my life. My father
23 worked at Linde Air. My grandfather worked at

1 Linde Air. I've been doing some research on
2 what radioactivity does when it's genetically
3 passed.

4 Usually doesn't hit the first generation.
5 My older brother died of a thyroid condition
6 which I believe was passed from my grandfather
7 through my father and then when my mother and
8 father had my brother this defect was passed to
9 him from working on this site and this condition
10 killed him three years ago.

11 Could I have the laser pointer and the
12 picture of the facility put up, please?
13 Building 31 here was our maintenance shop. It
14 used to be here in the 70's, but they moved us
15 back here. My father's office was in this
16 building and since then they have cut blocks out
17 of the walls of his office.

18 He sat on a hot spot and he died of a
19 hardened heart where the autopsy showed his
20 heart had pin holes in the back that blew out
21 and he died very painful and I believe it was
22 due to this what everybody has been talking
23 about, x-ray exposure.

1 He spent many hours working in that
2 building. The old timers I work with, there's
3 tunnels that come from here down here, here to
4 the power house, up into the front office
5 buildings, too. I worked in the new tunnels,
6 every building on that property.

1.9.2 | 7 What I never hear talked about is the old
8 tunnels that are buried next to the new
9 tunnels. When we talk about we're going to get
10 the truth out here, well, why don't we do that?
11 Underneath this building when I worked on second
12 shift with the Geiger counter in 1980 -- I had a
13 civil defense Geiger counter and right here in
14 this building -- I'm shaking a little because I
15 get nervous, but right here there was a
16 foreman's office that was shipping and receiving
17 inspection.

1.9.3 | 18 Most of the foreman that worked in that
19 office died of lower intestinal cancer. In this
20 building I found what was a plug ventilation
21 shaft, Building 31. They capped the floor and
22 when we moved back there there was an
23 entranceway to go under the ground. There was

1 an underground laboratory right in this area and
2 it's never talked about.

3 You can never find this facility up on the
4 website. It's a classified thing and I don't
5 think it's ever been de-classified because what
6 they did underground I understand was very top
7 secret for the war, which I'm proud we won that
8 war and I'm proud to be an American citizen.

9 My older brother had passed away. He served
10 in the United States Air Force. I'm proud of
11 that, so when we talk about the truth, I want to
12 get a little deeper into that. In 1981 this was
13 after the Right to Know Act was into effect.

14 This was due because of Love Canal. They
15 posted that on all our boards in the factory
16 that we had the right to know what we were
17 working on.

18 At second shift they had a safety meeting.
19 I asked this gentlemen here, Mr. Duggan, if he
20 had a level map of the radiation on the property
21 and I was told at that time everything was
22 within background radiation, so I was lied to.

23 It's very hard for me to come to these

1 meetings and listen to some of this stuff when
2 I've been lied to. How would you feel if you've
3 been lied to? I have ingested radioactivity and
4 I sat up in the Niagara Falls meeting in
5 Lewiston we went to.

6 My best friend is dying of cancer that I
7 work with here. He's got a three and a half
8 inch tumor in his lung and he was told to scrub
9 down this building that's no longer here, the
10 ventilator ducts that were on the roof.

11 What do you think was on there? I know what
12 was on there. You don't have to tell me. When
13 you ingest radiation it lays in your body and it
14 never comes out. It's like asbestos.

15 I don't know. There were times where I read
16 newspaper articles where I felt that the
17 politicians were against us and I'm glad to hear
18 Mr. Calabrese say what he said tonight. We
19 shouldn't be fighting each other. We should all
20 be working together.

21 As far as the money, maybe we should cancel
22 some of them shuttle missions. Thank you.

23 MR. PILON: I'd like to briefly address a

1 couple of issues. As part of our proposed plan
2 I mentioned that we're excavating soils that we
3 know that are contaminated.

4 We're also taking care of the tunnels that
5 he's talking about. We are aware there were
6 tunnels between the buildings, that there's
7 utility tunnels and there's a tunnel that was
8 used for delivery of ores into Building 30.

9 That's being addressed. There's also what
10 we believe is a vault which is a submerged vault
11 outside of Building 57.

12 That's being addressed, so our proposed plan
13 is to take care of soils and subsurface
14 anomalies and basically that's it. We had a
15 gentlemen come in, Chuck Swanick, who just
16 arrived and he raised his hand. I think he
17 wants to say something, so we'll give him the
18 floor next. Thank you.

19 MR. SWANICK: First, it's always a pleasure
20 to discuss this issue with the Army Corps of
21 Engineers and I apologize for being late. This
22 has been a bad week and it just continues to go
23 on and on and on, but the good news is I still

1 have my fingers which I'm very grateful for.

2 I want to take a few minutes to talk to the
3 Army Corps of Engineers about what I see to be a
4 major problem and it's a concern that I want to
5 insure we don't rush back to the old days. For
6 many of us at CANiT, and I'm a member of CANiT,
7 we had a deal with the Department of Energy for
8 about ten years and it was a very difficult,
9 controversial time for all of us.

10 It was one confrontation after the next,
11 after the next, after the next and to be very
12 frank with you, when the Army Corps of Engineers
13 received this assignment many of us were
14 somewhat skeptical, but we felt new faces, new
15 ideas and a willingness to work together.

16 So, for the first ten years it was more
17 about how to clean this up and to what level to
18 clean it up than it was about getting anything
19 done and I think what we all are pleased to say
20 that at least the material is starting to move
21 out of the Town of Tonawanda and it's been I
22 think a positive relationship for most of us as
23 far as getting some action, spending some money

1 and getting some material moved to a safer
2 facility.

3 It is very troublesome to me because there
4 is a definite difference of opinion and CANiT
5 has worked, I thought, very closely with the
6 Army Corps of Engineers in attempting to
7 overcome some of those differences that we had
8 with the Department of Energy and to try to work
9 together with the neighborhood to get this done
10 as quickly as possible within budget and, most
11 importantly, meeting various health guidelines
12 that we had agreed to about a year and a half
13 ago.

14 Now, I do know there was some difference of
15 opinion about the health guideline, but we
16 finally settled on a guideline and we moved
17 forward. My comments are really directed to the
18 Army Corps because we are now to a point where
19 we're at a next big phase of this program and
20 that is to deal with Praxair, get that cleaned
21 up the way it should be cleaned up and we have a
22 couple more spots that need to be cleaned up and
23 I think up to this point we've all worked

1 together, but there could be a separating of the
2 ways here because CANiT, all the elected
3 officials and the residents as well are looking
4 very closely at this new document and I am very
5 concerned about some of the levels that are
6 being used as a guideline for cleanup.

7 Now, most of you I think have been with this
8 for about eleven or twelve years as I have and
9 there was a tremendous fight with the Department
10 of Energy about the degree of cleanup. I
11 remember there was some that had a very, very
12 high level of cleanup. There was some that met
13 a middle ground by saying we would clean it up
14 for commercial property as it's zoned in
15 Tonawanda and there was the Department of Energy
16 that told us it was a peanut butter sandwich and
17 it was edible and not to worry about it.

18 I think the degree of cleanup is crucial and
19 I think we need to work very closely together
20 and not get into a confrontation, not to get
21 into a head-on collision because we've come so
22 far and ultimately the goal for all of us is to
23 get it cleaned up.

1 Now, this issue of the level of the cleanup
2 is very, very important and CANiT as well as the
3 community and F.A.C.T.S. are looking very
4 closely at your degree, your level of cleanup,
5 and I will say that we don't agree with that
6 level.

7 We do not agree with that level, so CANiT
8 now is going to take some time as well as some
9 of the other groups and we have a consultant and
10 we're going to get more deeply involved again in
11 this issue as we look at what you're proposing
12 to do and what we believe based on scientific
13 research and documentation going back twelve
14 years as to what is a safe level of cleanup and
15 I want to assure the Army Corps of Engineers
16 that we have no intention of accepting anything
17 less than an acceptable level of a cleanup.

18 When DOE offered us millions of dollars to
19 do a cleanup based on their point of view we
20 rejected it. When DOE offered us all sorts of
21 opportunities if we would join them in leading
22 the material here we rejected it. When DOE
23 tried to create a citizens committee that would

1 be directed by the Department of Energy to keep
2 the material here we rejected it.

3 When we all pulled together the message was
4 DOE can't do this cleanup because we don't trust
5 them any more and so DOE was taken away and the
6 Army Corps of Engineers was brought here and up
7 to this moment I think all of us would say it's
8 moved well and you've done a good job, but let's
9 not separate our ways.

10 I want to again make it very, very clear
11 that we are not ready today, tomorrow or next
12 week to adjust what we consider to be a safe
13 level of cleanup, and a safe level of cleanup is
14 based on documentation, research and scientific
15 study.

16 We have a difference of opinion and we need
17 to stop and solve this before we go to the next
18 step and all of us know what this next step is.
19 It is the newspaper confrontations. It is the
20 public comment. It is the rally of the people
21 and it is the cry of the elected officials to
22 come together.

23 We need to slow this right down. Let's get

1 this solved with Praxair. You folks have waited
2 a long time to get it done right and we've
3 waited a long time to get it done right. Then
4 we'll move on to the final cleanup phase, but if
5 we don't get some reasonable conclusions from
6 the Corps then I'm fearful we'll take a step
7 back and that's what I don't want to do.

8 So, my message tonight to you, sir, and I
9 have to be careful because I'm in the Army
10 Reserve so I respect that uniform and you
11 certainly outrank me significantly, so you
12 notice I didn't wear my Army uniform because I'd
13 probably be on my knee right now, but I just
14 want you to know, sir, that we can do this two
15 ways.

16 We can do it together and we can do it in a
17 reasonable fashion or we can get into a
18 confrontation and then everything comes to a
19 standstill and then everything slows down and
20 then we don't get anything done for another
21 couple of years.

22 I think all of us want it done right the
23 first time and we want it out of here once and

1 for all. Thank you very much.

2 MS. KREUSCH: Thank you. Next speaker will
3 be Marlyn Morford.

4 MS. MORFORD: Hi. I'm Marlyn Morford and
5 I've been a resident here for 28 years. I don't
6 like to be a doomsdayer, but I agree with Mr.
7 Swanick. If it's got to be done do it the right
8 way.

9 I have lung cancer which I found out by
10 accident just by taking an x-ray. My kids
11 played here and a lot of neighborhood kids which
12 we all know have died and elderly residents,
13 too. I think if it's going to be done it better
14 be done right.

15 Otherwise, it will no longer be a riverview
16 community. It will either be passed on to the
17 children or else it will be nothing. What I am
18 worried about is the airborne contaminants that
19 will be coming in the air when they do remove
20 the uranium and the radiation material.

21 I have no reason to have lung cancer, but I
22 do. I am a nonsmoker and I have no reason for
23 it and that is probably the only reason why,

1 from living in this area, walking the streets
2 and picking up through the school yard and what
3 else. Thank you.

4 MS. KREUSCH: Gary Bauer?

5 MR. BAUER: I have no comments at this
6 time.

7 MS. KREUSCH: Okay. Is there anyone that
8 did not sign up tonight to speak that has
9 changed their mind and would like to comment?

10 LIEUTENANT COLONEL FEIERSTEIN: I just want
11 to say one quick comment before we go to the
12 break and the informal question and answer
13 session.

14 I agree whole-heartedly with what Chuck
15 Swanick has said. I agree with what pretty much
16 all of you have said, but I would like to make a
17 couple of points to clarify a few things.

18 I know that this is a very difficult issue.
19 I know that there is a lot of history to it that
20 I can't even begin to understand not having
21 lived here. I know it's very emotional. I know
22 that it is very negative and it carries a whole
23 lot of negative connotations.

1 I don't think there's anything good that can
2 be said about it. I would like to have you
3 think of us as not being -- not having caused
4 it. Don't link us with having caused it. We're
5 here to try to fix it.

6 I'm an Army officer as Chuck Swanick said,
7 the Army Corps of Engineers, the U.S. Army Corps
8 of Engineers, my boss is a general. His boss is
9 a three star general. I'm a military officer
10 and I'm not going to come to you and lie to you.

11 I'm not going to deceive you and I'm not
12 going to play political games. I'm going to
13 tell you the truth and I'm not going to mince
14 words and I am very serious about coming to you
15 to give you more information on this any time
16 you want to.

17 There are no secrets. There is nothing
18 hidden under the table. There's no classified
19 information that we're keeping from you. I will
20 even invite you -- if you want to you can come
21 in a group. You can visit us in the Buffalo
22 District and I think that Chuck Swanick said we
23 have done a good job up until now and I'll

1 take exception to that.

2 I'll say we have not because we have not
3 communicated adequately with you because there
4 are a lot of misconceptions about this proposed
5 plan and even about our Ashland 2 site, for
6 example, and we'll respond to this formally in
7 writing.

8 We're not going to leave any contamination
9 behind on Ashland 2 and we're going to remediate
10 it and move everything to the standards that we
11 originally agreed to and we're not going to do
12 that and I will accept the responsibility for
13 communicating poorly with you and, like I said,
14 there's a lot of misconceptions.

15 This is going to be totally above board and
16 open and I'd like to take a couple minutes break
17 and then we will informally answer questions
18 and, as I said, take me up on the offer.

19 We will come out to your community and go
20 through this with you at any time and you're
21 welcome to visit us in the district and we'll go
22 over any of this with you at any time.

23 I'm not -- what is the best way to put this?

1 It is extremely important for me to do the right
2 thing and I'll just tell you that's why I joined
3 the Army because to me the Army is an
4 organization where to the maximum extent
5 possible you do the right thing and that's why I
6 stayed in it and, again, if you trust your
7 military -- that's why Congress gave this
8 mission to the Corps of Engineers.

9 It's the U.S. Army Corps of Engineers. It
10 is a U.S. Army major subordinate command and we
11 have a lot of dedicated civilian public
12 servants, but it is always commanded by military
13 officers, so basically in effect you have the
14 U.S. Army behind this and I will not -- I will
15 act accordingly and handle this mission to bring
16 credit upon the Army as I always have in the
17 past, so please do not think of me -- I know you
18 say you're the government.

19 Okay. Can I make a little joke here? I
20 probably shouldn't say this on record, but I
21 will. To say that I'm the government and why
22 should we believe you when someone else said
23 this, that's kind of like -- everyone just

1 finished their taxes.

2 It's kind of like blaming me for the IRS and
3 the tax system. Please don't blend it all
4 together. We're the U.S. Army Corps of
5 Engineers.

6 We're here to clean this up and we will
7 work very closely with you and I think that we
8 have reasonable standards here and those are
9 backed up by science and a woman up here made a
10 comment about being concerned about contaminants
11 in the air when we begin the remediation
12 process.

13 What we'll do, if it's okay with you, is
14 bring the press through here and show the
15 kinds of controls that we have for things like
16 that. We have very, very serious perimeter
17 controls.

18 It's almost like a military perimeter
19 where we have specified standards for
20 wetting down the material and we have rigid
21 parameters of detection equipment to keep the
22 airborne contaminants down, so again,
23 everything is open and on the table and I

1 look forward to working with you to clean this
2 up to a reasonable, a safe and a healthy
3 standard.

4 With that said, I'd like to take about a
5 five minute break and then we will go into an
6 informal question and answer session.

7

8 (Whereupon, the hearing concluded)

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ATTACHMENT 2

PUBLIC HEARING COMMENTS

June 3, 1999

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PROPOSED PLAN FOR THE Linde Site,
TONAWANDA, NEW YORK YORK

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Public Hearing held June 7, 1999 at 7:00
P.M., at the HOLMES ELEMENTARY SCHOOL, Dupont Avenue, Town
of Tonawanda, New York, for the Army Corps of Engineers.

Present:

LIEUTENANT COLONEL MARK D. FEIERSTEIN,
RAY PILON, PROJECT MANAGER,
ARLENE KREUSCH,
TIMOTHY BYRNES,
THOMAS KENNA, PROJECT ENGINEER,
MICHELLE BARCZAK, COUNSEL,
CHRISTOPHER HALLAM, HEALTH PHYSICIST,
FRANK STEVENSON,
DAVE CONBOY,
JOHN LANDAHL,
CHERILYNN M. PARENT, STENOGRAPHER.

ALSO PRESENT:

Richard Tobe,
Charles Swanek,
Carl Calabrese,
Donald Finch,
Ralph Krieger,
James Rauch,
Alan Bruce,
Lee Lambert,
Kim Hanobeck,
Sherry Dooley,
Frank Lee.

1 LIEUTENANT COLONEL MARK FEIERSTEIN: Good
2 evening, ladies and gentlemen. My name is Lieutenant
3 Colonel Mark Feierstein, and I'm the Commander of the
4 Buffalo Engineer District, U.S. Army Corps of
5 Engineers. Welcome to the Linde public meeting, the
6 second public meeting for the Linde FUSRAP Site. We
7 have a small group here, and because of that, tonight
8 what we'd like to do is ask something a little
9 different. I was going to introduce about half of the
10 people in the room anyway. What I'd like to do is
11 give anyone the chance to introduce themselves here,
12 just so we can all know who we're dealing with. If
13 you don't want to, we'll just pass you by, but I
14 encourage you to speak up and let us know who you are.
15 I think that would give this a tighter feeling, if we
16 all know who we are.

17 MR. BALLON: Frank Ballon, intern at the
18 Corps of Engineers.

19 LIEUTENANT COLONEL MARK FEIERSTEIN: Okay.
20 Take it row by row.

21 MR. HALLAM: Chris Hallam. I'm the health
22 physicist with the Buffalo District.

23 MR. KENNA: Tom Kenna.

24 MR. LANDAHL: John Landahl, Chief of
25 Engineer and Planning at Buffalo District.

1 MR. PILON: Ray Pilon. I'm the project
2 manager for the Linde Site.

3 MS. BARCZAK: Michelle Barczak, Counsel at
4 the Buffalo District.

5 MR. STEVENSON: Frank Stevenson with SAIC,
6 contractor for the Corps.

7 MR. CONBOY: Dave Conboy, Environmental
8 Engineer with the Corps of Engineers.

9 MR. BYRNES: Tom Byrnes.

10 MS. LAMBERT: Lee Lambert, from the League
11 of Women Voters.

12 MR. MITCHELL: John Mitchell with New York
13 State Department of Environmental Conservation.

14 MR. TOBE: Richard Tobe here for environment
15 and planning.

16 MR. GRIMES: Paul Grimes, Erie County
17 Department of Environmental Planning.

18 MS. DOOLEY: Sherry Dooley. My son attends
19 the school.

20 MR. RUSSELL: Mike Russell.

21 MR. DOOLEY: Dave Dooley.

22 MR. BRUCE: Alan Bruce, resident of the town
23 for 42 years and retired after 44 years teaching
24 radiation science at the University of Buffalo. A
25 friend. Town resident for 30 years.

1 MR. FINCH: Don Finch, Treasurer of the
2 F.A.C.T.S, Incorporated Group.

3 MR. COWAN: Bill Cowan, Tonawanda resident.

4 MR. RYDER: David Ryder, Town of Tonawanda
5 Councilman.

6 MS. MOREFORD: Marlyn Moreford, just a
7 resident.

8 MR. KRIEGER: Ralph Krieger, President of
9 Local 8.

10 MR. RAUCH: James Rauch.

11 MR. AUGUSTINE: Jim Augustine, Prax Air
12 employee and resident of Building 14 since the mid
13 '90's.

14 MR. HIRSCH: Paul Hirsch, resident of
15 Tonawanda.

16 MR. KUBRA: Ron Kubra, employee of the
17 Tonawanda News.

18 MS. KIRK: Susan Kirk, town resident.

19 MS. VOGEL: Sherry Vogel, Buffalo News.

20 MS. KREUSCH: Arlene Kreusch, public affairs
21 for crews represent, the Corps.

22 MS. CRAWFORD: Martha Crawford, 30 plus
23 years town resident.

24 MR. RODENMOCKER: Kenneth Rodenmocker
25 neighborhood resident.

1 MR. PASSPORT: Joe Passport, retired.
2 TOM DOUGALL: Tom Dougall, Prax Air.
3 MR. RAPHERTY: Jim Rapherty.
4 LIEUTENANT COLONEL MARK FEIERSTEIN:
5 Welcome. What we want to do here is clarify The
6 Corps' plan that we discussed the last meeting. It
7 addresses some of the concerns that you brought up
8 from the last meeting, provides you with an additional
9 opportunity to comment, and again, what we're trying
10 to do here is get input and make sure that the plan
11 that we execute is the best plan. Next slide.
12 Meeting protocol. When we get to the comment
13 period, I'd like to stress that you go in the order
14 that you signed up in, that you signed up for with the
15 cards. Arlene, are you going to call the names in
16 order?
17 MS. KREUSCH: Yes, I will.
18 LIEUTENANT COLONEL MARK FEIERSTEIN: I ask
19 that you limit your comments to five minutes or less,
20 please. That's so everyone can get a chance to
21 comment and use the microphone, unless you're as loud
22 as I am. Next slide, please.
23 This is an overview of what we're going to
24 discuss. Next slide.
25 Congress gave the FUSRAP Program to the Corps

1 of Engineers in 1997. The bottom line of what we're
2 trying to do here is -- sir?

3 MR. FINCH: Could you move the curtain so we
4 can see the rest of it?

5 LT. COLONEL MARK FEIERSTEIN: How's that?

6 MR. FINCH: Good.

7 LT. COLONEL MARK FEIERSTEIN: Let me also
8 point out that we have hard copies of these slides if
9 you'd like to take those with you on your way out.
10 There's a stack about a foot thick on the table back
11 there. Okay. Bottom line of what we're trying to do
12 on this site, as with any site, is to do it right the
13 first time, and by that I mean, remediate so that the
14 site is protective of human health and the
15 environment, and to do so in a timely manner, in
16 accordance with applicable laws. Next slide, please.

17 We're going to show you tonight that our plan
18 does comply with applicable laws. It is protective of
19 health in the environment and does allow free release
20 of the site. Our modeling indicates that the average
21 uranium levels left behind, when averaged over a soil
22 volume of 2,000 square meters, is going to be less
23 than 60 picocuries per gram. That's what our modeling
24 indicates. There was some concern because that is an
25 estimate. There was some concern over that number.

1 So what we're doing tonight is we're going to commit
2 to meet that number. Now, again, that was an estimate
3 based on modeling, but I'm here to tell you tonight
4 that we're going to commit to make that. Next slide.

5 What I'd like to do, then, is turn it over to
6 the project manager, Ray Pilon, and he's going to give
7 you an overview of the Linde Site and explain exactly
8 how we're going to do that, and get into some more
9 specifics with the numbers. Ray.

10 MR. PILON: Thank you, sir. This is our
11 second meeting. As the Colonel mentioned, we'll go
12 through the site history. There's some folks here
13 that weren't here last time. Trying to make everybody
14 understand what the process was 40 some years ago.
15 We'll talk about the alternatives that the Corps of
16 Engineers has evaluated, explain what the criteria is
17 for cleaning it up, explain the modeling that the
18 Colonel mentioned, and describe what our quality
19 assurance process is to insure that what we say we're
20 going to do we'll actually do, and we'll identify the
21 schedule and then take comments from anyone who wishes
22 to make them.

23 The FUSRAP -- let me start off. In the
24 1940's, the Manhattan Engineering District came to
25 Tonawanda and they were -- basically, they processed

1 uranium at the Linde Site, and some of that process
2 contaminated some of the facilities there. The FUSRAP
3 Program is Formerly Utilized Sites Remedial Action
4 Program, that was authorized by Congress in 1974 to
5 actually address the contamination and take care of it
6 and clean it up, and that's where we are today.

7 The Linde Site was officially designated into
8 the program in 1980, and for the past 17 years, that
9 program was administered by the Department of Energy.
10 That program transferred to the Corps in October 1997,
11 and we're here today, two years later, with a plan to
12 present to the town, to you. And when I first started
13 our first meeting I said, this is a great day for
14 Tonawanda, and I still believe it is, and we'll show
15 you why. Next slide, please.

16 Some of the history. There were some major
17 studies done by our predecessors in 1993. We've had
18 medial investigations, baseline risk assessments,
19 feasibility studies, and the Department of Energy
20 released a proposed plan in 1993. In that plan they
21 released, it had some major concerns to the community.
22 They wanted to have an on-site disposal facility, and
23 it met with strong resistance, and that plan was
24 pretty much dropped from future consideration.

25 Since that time, the Corps of Engineers --

1 next slide, please -- the Corps of Engineers has
2 produced a number of reports. We've looked at
3 groundwater. There were some injection wells at the
4 site. We took a look at the groundwater issues.
5 We've done a radiological assessment and we came up
6 with a guideline derivation which kind of presented
7 the criteria that we planned on using to make the site
8 safe, and we've addended the feasibility study that
9 was produced by the Department of Energy to bring it
10 up to current standards and we released a proposed
11 plan in March. This presentation is the second one
12 we've had on the proposed plan. So that's, basically,
13 the studies that have been done since the Corps has
14 been involved, and you saw the studies done by the
15 D.O.E. Next slide, please.

16 Okay. For those who are unfamiliar, maybe
17 you've never been in a Prax Air facility, this is
18 Sheridan Drive up here. We're in the school that's
19 over in this area here. Sheridan Park Golf Course is
20 up in here. I think everybody is familiar with the
21 neighborhood. The Prax Air facility itself is over
22 190 acres. There's a number of buildings. This past
23 year Building 30 was demolished by the Corps. That
24 was done last fall. Building 14 has been
25 decontaminated for radioactive contamination in the

1 building, and there's a Bright-Knox research and
2 development for Prax Air. It's important to the
3 community and important to the country. Next slide,
4 please.

5 Okay. This may be hard for you to see, but
6 hopefully you can see it. The blue areas that are
7 shaded on this map is where we know the contamination
8 exists in the soils. We mentioned Building 30 was
9 demolished. There's a slab that's existing there
10 today. Our proposed plan that we're presenting
11 addresses each of these areas. We're planning on
12 excavating the soils, going into tunnels. Subsurface
13 anomalies exist off Building 57. We believe there may
14 be a vault there. We have a plan to go in, dig it up
15 and haul it out of the state. That's pretty much
16 saying it in about 10 words. We're going to dig it up
17 and haul it out of here, and when we're done the site
18 will be determined to be, under existing federal and
19 state laws, be free release for any purpose.

20 The one exception with this is Building 14.
21 As I mentioned, the building is -- we decontaminated
22 the interior of the building. We know there's some
23 contamination existing on the outside brick. It's
24 minor, but it's above guidelines. Our plan addresses
25 that. We'll go in and decontaminate the exterior of

1 the building. What we're not addressing or proposing
2 to address is the subsurface soils that exist actually
3 beneath the foundation of the building, and based on
4 our modeling, we believe the soils below that, which
5 are inaccessible and out of human contact, are
6 contaminated, and we plan on addressing that with
7 providing, perhaps, institutional controls or some
8 kind of restrictions. If that building is considered
9 for demolition in the future, we'd have to come in and
10 insure that that would -- the soils would be addressed
11 separately. Next slide, please.

12 Okay. The alternatives are -- I pretty much
13 described them. The one in the dark box is
14 excavation, decontamination of Building 14 and placing
15 institutional controls if necessary. We've also
16 considered demolishing Building 14. That's an option.
17 Right now the preferred alternative that we are
18 presenting keeps Building 14 intact, but addresses all
19 the other areas within the Linde property, and the
20 cost associated with that is, roughly, \$28 million.
21 Next slide, please.

22 Okay. I mentioned there was a guideline
23 derivation radiological assessment performed, and
24 based on that, what we've done is we looked at the
25 contamination, the radionuclides that contaminate this

1 site. That's, basically, uranium, thorium and radium.
2 We look at all the laws and regulations, and there's
3 an existing regulation in the Code of Federal
4 Regulations, 40 CFR 192, that addresses radium and
5 thorium, in that it allows for us to cleanup the
6 concentration in the first 18 centimeters of soils to
7 5 picocuries per gram, and below 18 centimeters we can
8 get to 15 picocuries per gram. These units are in
9 picocuries per gram. It's addressed in an asterisks
10 down there.

11 The uranium is a different radionuclide
12 that's not covered under the 40 CFR. So what the
13 Corps has done is they've done a risk base assessment
14 and they've come up with a level that equals the risk
15 associated with the radium and thorium, and that is
16 600 picocuries per gram at the surface, the first 6
17 inches. It's actually 18 centimeters of soil. So
18 that's the criteria that we've modeled for, and we've
19 done risk assessments, and when we use this criteria,
20 the results of -- I'll show it on the next slide.
21 okay. What -- do you recall I said the radium
22 criteria was 5? Our modeling shows that the radium
23 criteria will actually be somewhere around 3, and when
24 I mentioned the 600 for uranium, our model shows, in
25 the worst impacted area on the site -- the entire site

1 is not contaminated, but we've gone to the worst
2 impacted areas on the site, taken the worst case
3 scenarios, and the highest elevated reading we expect
4 would be somewhere around 51.

5 So based on the modeling results, the Colonel
6 has told us to proceed on and commit to achieving at
7 least below 60 on the uranium, and we've done, also, a
8 comparison on what the differences are, and there's
9 really not much as far as exposure or dosage. This
10 here would show what the exposure is for a commercial
11 industrial scenario. The site is owned -- is an
12 industrial site, and plans are, for the foreseeable
13 future, that it remain existing industrial. We've
14 been working with the local officials and they agree
15 that's the right approach to use. So the exposure
16 that is a dose -- people are familiar with dose --
17 when we cleanup the worst impacted area, the exposure
18 on uranium is equivalent to three-tenths of a millirem
19 per year. Next slide, please.

20 Okay. Now, this compares what the total is,
21 radium, thorium and uranium. The previous slide
22 showed the total was around 6. When you compare that
23 to existing guidance or regulations that exist -- the
24 Nuclear Regulatory Commission has guidelines that say
25 any activity should not exceed 25 millirems per year,

1 and you'll see that The Corps' plan is well below that
2 at 6. E.P.A. also has similar guidance, and we're
3 below the E.P.A. guidance also. Next slide, please.

4 Okay. This pretty much is a repeat of what
5 the Colonel told us to do as far as the commitment.
6 The Corps will commit to making sure the uranium
7 levels are below 60. As I mentioned, the modeling
8 showed it would be 51 in the worst areas, and it will
9 be well below that in other areas, and this is based
10 on averaging, a volume average over 2,000 square
11 meters at three meters thick, and that's based on the
12 model criteria that was used to develop that. Next
13 slide, please.

14 Okay. I want to talk a little bit about
15 quality control and quality assurance. The Corps is
16 -- we're using prequalified radiation contractors that
17 are experienced in the field. They've been there for
18 years. That begins the quality control process. We
19 don't use anybody that's not well-qualified. The
20 Corps also provides full time on-site inspectors
21 on-site to insure that the work is being performed in
22 accordance with our specifications.

23 The Corps also visits the site with various
24 technical experts, health physicists, rad technicians,
25 anybody we need we'll bring out. We also have

1 confirmatory samples. The contractor will be taking
2 samples and sending them out to a lab. The Corps does
3 independent confirmatory samples. We send them out to
4 our own lab just to make sure that what the contractor
5 is showing us is legitimate and there's no mistakes
6 made. Next slide, please.

7 Okay. The information that the Corps gathers
8 is shared with the New York State Department of
9 Environmental Conservation, we'll share it with the
10 Town of Tonawanda, Erie County. Anybody who wants to
11 be involved, to review the data, what we'll do is
12 provide that to them. The quality assurance program
13 is also administered independently of project
14 management. I'm a project manager. I report to the
15 Colonel. Quality assurance folks don't work for me,
16 they don't work for the project management side of the
17 house. They're in engineering and they report
18 directly to the Colonel, and while all this is going
19 on, New York State Department of Environmental
20 Conservation visits us on a routine basis. Sometimes
21 they knock on the door when we don't expect them, but
22 they're welcome to knock on the door any time, and
23 they gather independent sampling and they have it
24 tested at their own lab, and that's additional
25 confirmation on the laboratory analysis. They check

1 us, we check the contractors. Everybody's checking
2 everybody else. Next slide, please.

3 So in summary, the plan we have does meet all
4 the applicable laws and regulations. It makes sure
5 the health of people not only working on the site but
6 the residents in the area are protective, and it
7 allows free release of the site. Next slide, please.

8 Tell you right now, we're planning on ending
9 our comment period. We started our comment period on
10 April 27th. We've extended it for over 30 days, and
11 right now we're closing the period June 11th. If
12 anybody has any comments that they'd like to submit,
13 please do so by that date.

14 Our schedule is to have a record of decision
15 signed in late August -- or late July, I'm sorry, and
16 begin remediation in August. The record of decision
17 will include the directive our Colonel has told us to
18 do with the commitment of making sure the average
19 uranium is below 60, and if all goes well, we should
20 be able to complete the remediation by the fall of
21 2000. Next slide, please.

22 Okay. The comments can be mailed to the
23 Corps' FUSRAP office. It's at 1776 Niagara Street,
24 Buffalo, New York 14207. If anybody needs a handout,
25 there's various ones on the table in the back hall.

1 Next slide, please.

2 Okay. That pretty much wraps up my
3 presentation on Linde. There was a meeting held about
4 four weeks ago and there were some issues raised. I
5 just wanted to let the people know that we did listen
6 to you and we have some answers for you.

7 The first issue people were concerned about
8 at the first meeting was 60 picocuries per gram versus
9 600 picocuries per gram. As a result of those
10 concerns, the Corps went back and remodeled under
11 various scenarios; we've looked at commercial,
12 residential, farmers, tried to compare what our
13 predecessor had, and we presented that information to
14 Erie County and the Town of Tonawanda, and I think
15 we're on track. I think we have support, and perhaps
16 you'll confirm that in your comments.

17 There was an issue with Rattlesnake Creek.
18 That's not on the Linde Site. That's a creek that's
19 off the Ashland facility that's off River Road. There
20 was an issue that uranium was discovered in
21 Rattlesnake Creek and the Corps, the Corps was the one
22 that found that. We're investigating it, and we
23 expect a study or a report on that to be available in
24 the next week or so, and that will be shared with New
25 York State Department of Environmental Conservation

1 and the CANiT consultant and the Town of Tonawanda,
2 and we will do whatever we need to do to make that
3 site safe.

4 There was an issue with independent
5 verification contractors. The Corps' position or
6 policy is that we will not use them. We feel that our
7 quality assurance, quality control process exceeds
8 the, exceeds that process. So that's basically been
9 eliminated from further consideration.

10 People mentioned -- another issue was
11 radiological licensing. People were trying to allude
12 that there is -- there'd be a license required once
13 we're done, and we've investigated that, and based on
14 that investigation, we determined there will not be a
15 licensed required.

16 And last but not least, the New York State
17 TAGM, TAGM stands for technical administrative
18 guidance memorandum. That's a non promulgated
19 guidance memo. What that TAGM does is identifies that
20 the level of exposure should not be above 10 millirems
21 per year, and as I showed you in our presentation, the
22 plan that we have does meet the TAGM. We're not
23 required to make it. Our plan will be 6 millirems at
24 -- under the industrial scenario. So even though it's
25 not something that we have to abide by, it's a

1 coincidence that we met it. Next slide, please.

2 Okay. I'll turn this over to Arlene. She's
3 going to lead off the comment process. Got a list of
4 names. She's asking that one person speak at a time.
5 Limit that to a five minute presentation to give
6 everybody an opportunity to speak, and if at all
7 possible, use a microphone. Thank you. Arlene.

8 MS. KREUSCH: Okay. I will be calling you
9 in the order in which I received the cards. With
10 respect to elected officials, Chuck Swanek, Chairman
11 of the Erie County Legislature. Richard Tobe,
12 representing the Erie County Department of Environment
13 and Planning and the Coalition Against Nuclear
14 Materials in Tonawanda.

15 MR. TOBE: Thank you. As was said, my name
16 is Richard Tobe. I'm Commissioner of the Erie County
17 Department of Environment and Planning, and Chairman
18 of CANiT, which is a federation of elected officials
19 who were formed 12 years ago to deal with radioactive
20 waste in the Town of Tonawanda and the FUSRAP process.
21 CANiT is a bipartisan committee of elected officials
22 who have, for the last 11 years, pursued an objective
23 of a Tonawanda free from the legacy of the radioactive
24 contamination resulting from the Manhattan Project.
25 CANiT continues to insist on the cleanup which is

1 protective of public health and the environment,
2 provides remediated sites cleaned to a standard that
3 will allow unrestricted use and that will ultimately
4 enable the unencumbered implementation of the Town
5 Master Plan.

6 I first want to thank Congressman LaFalce for
7 his continued involvement and participation in the
8 process to insure the goals of CANiT are met by the
9 federal government. In addition, I wish to thank the
10 Army Corps of Engineers for their willingness to hear
11 our concerns, respond to them in an appropriate and
12 timely fashion, and for providing funding for CANiT's
13 technical consultant, MJW Corporation. I want to
14 thank Lieutenant Colonel Feierstein for agreeing to
15 extend the comment period for the proposed plan for
16 the FUSRAP former Linde Site. Without that extension,
17 our ability to prepare and understand the proposal
18 wouldn't have been possible. So thank you for that.

19 I also want to recognize the Army Corps of
20 Engineers for their accomplishments thus far with the
21 Tonawanda FUSRAP Program. For the first time in 50
22 years, radioactive waste has left Tonawanda. The war
23 years are long over, the studying is over, and
24 finally, the talking and proposal making is over. The
25 Corps has taken action on Ashland 2 and now is ready

1 to move to Linde. The remediation at the Ashland 2
2 site has been implemented with efficiency and has
3 resulted in a cleanup which has exceeded the
4 established criteria. These actions speak louder than
5 words. The Corps' efforts have exceeded expectations,
6 and we hope this will continue as the program proceeds
7 from site to site.

8 On April 22nd of this year the Corps of
9 Engineers held a public hearing here at the Holmes
10 School. I testified on behalf of CANiT and raised a
11 number of issues which needed to be addressed. Many
12 of those issues were on the screen as one of the last
13 several slides, and I was pleased that they were
14 addressed as they were. One of the significant
15 issues, and to us, the most significant is that the
16 Corps had only that day released the funding needed to
17 allow our technical consultant, MJW, to commence its
18 review of the Corps' proposed Linde cleanup plan.

19 Happily now, Dr. David Dooley has been able
20 to complete his study and reported to CANiT that The
21 Corps' proposed cleanup, as modified over the last
22 several weeks, and as described tonight, will be fully
23 protective of public health and will allow for the
24 unrestricted use of the Linde Site, except for the
25 Building 14 issue, which we'll have to discuss, and

1 which Chuck Swanek will discuss. The most stringent
2 radioactive exposure criteria will be achieved or
3 exceeded, and Dr. David Dooley has essentially
4 reported that we should feel comfortable in agreeing
5 and accepting the proposed plan, and he's issued a
6 report to us, which we will make available to anyone
7 if they want it, if you let Paul Krantz or David
8 Dooley know. Paul, why don't you raise your hand.
9 You can get a copy of the report from him.

10 Our experience with hazardous site remedial
11 actions in the public sector usually calls for the use
12 of an independent verification contractor to assure
13 that the cleanup action attains the level of
14 cleanliness specified in the work plans. The use of
15 an IVC, independent verification contractor, is the
16 first choice of CANiT. We are, however, prepared to
17 accept the current structure of The Corps' quality
18 assurance procedures, provided that these actions
19 continue to receive the scrutiny of the New York State
20 Department of Environmental Conservation and CANiT'S
21 technical consultant. We are prepared to accept The
22 Corps' quality assurance program due to the excellent
23 track record at Ashland 2, the built-in protections
24 which the Corps has in place, and because of the high
25 level of scrutiny that is available for this cleanup

1 effort.

2 Given The Corps' track record thus far with
3 the Tonawanda FUSRAP Program, CANiT is willing to
4 accept the current proposal for the Linde Site
5 remediation. CANiT will continue to monitor and
6 review the efforts of the Corps to execute this plan
7 and incorporate its criteria into work specifications.
8 CANiT is pleased with the cooperative nature of the
9 discussions, and looks forward to progress in cleaning
10 and clearing this site and all others from its
11 radioactive legacy.

12 MS. KREUSCH: Chuck Swanek, Chairman of the
13 Erie County Legislature.

14 MR. SWANEK: Thank you, and it's a pleasure
15 to be here this evening, and before I comment on this,
16 I have to acknowledge that the last time I met with
17 the Army Corps of Engineers -- most of you are my
18 constituents -- you know that I do have this temper,
19 it takes awhile, but they did get the wrath of my
20 temper the last time. So I want to apologize for
21 that, but after 11 years of trying to come to grips
22 with cleaning up the radioactive material, the FUSRAP
23 material left from the development of the first
24 nuclear bomb, we had run into a glitch, and it was a
25 glitch that we all felt needed to be resolved, and I'm

1 pleased to report to you that we believe, CANiT, the
2 elected officials, who have spent most of our career
3 on this issue, are satisfied with the Army Corps of
4 Engineers' review and modifications that they've made.

5 It is very, very important for us to clean
6 the sites up and to do them in a prompt fashion due to
7 the fact that they are here now. There is an
8 investigation and review underway, and there is monies
9 to take the material away from this region, and we've
10 had some really significant successes with the Ashland
11 sites, but it has been a long process. There's been a
12 number of meetings. After the last time we had an
13 opportunity to sit and talk, and we've come to what we
14 believe to be a standard that is in full compliance
15 with what we agreed with back in 1997, '96, '97, with
16 the Department of Energy. And so we are moving
17 forward again, and the key is for all of us;
18 constituents, elected officials and citizens, to move
19 this material out safely, always having the interest
20 of human health at the foremost point.

21 There is one other issue that I just want to
22 mention, and that is Building No. 14, which involves
23 Prax Air and the Army Corps of Engineers. One of the
24 things that we have worked on throughout these 11
25 years is when the cleanup did take place that the land

1 would be not restricted. There'd be no land
2 restriction whatsoever. So this way, based on the
3 zoning of the Town of Tonawanda, it could be used
4 effectively from this time on into the future. The
5 Building No. 14 creates some significant issues. One
6 is that it is a contaminated building, not
7 significantly contaminated, but there is radioactive
8 material there in that building, underneath and
9 around. Prax Air, at the same time, has used the
10 building for a lot of their research and development
11 and has significant equipment and other materials in
12 the building. What we would hope that the two parties
13 could do, and all of us as elected officials have had
14 a discussion on this, and we sincerely mean this, we
15 think it's critically important that Building 14 be
16 dealt with. That to have any land restriction on the
17 sites once the cleanup is done would really, we would
18 miss an opportunity to say once and for all the
19 radioactive material, the issue, the FUSRAP issue is
20 over with, and while the Army Corps of Engineers has
21 extended their comment period one more week to deal
22 with Building No. 14, it is our recommendation from
23 CANiT and from myself that we do everything
24 conceivable to somehow get this building cleaned up to
25 insure that there's no deed restriction whatsoever

1 once the Army Corps has completed all of its work.
2 And there is additional work that will be done even
3 beyond what their cleanup is right now. So between
4 Prax Air -- and I know it's a significant issue for
5 you to deal with all of what you're doing over there,
6 and the Corps because it's on a tight time frame.
7 There has to be a conclusion reached where the
8 material is cleaned up. So we would ask both of you
9 to work on that, the elected side. The CANiT
10 organization is more than willing to help assist in
11 any way to insure that that's done.

12 Then just in conclusion, to say that for all
13 of us that have been involved in this thing, I know,
14 going back over the years -- and I look at many folks,
15 and I see we got Jim back again, and some other
16 folks -- we've all sort of grown old over this issue.
17 We've had to compromise in some cases to get the
18 cleanup done. Not a compromise that poses any health
19 threats to the citizens, but to try to deal with
20 money, clean it up correctly, the health concerns, and
21 the needs of the constituency, and we've been very
22 successful with Ashland 1 and Ashland 2, and we want
23 to be successful with Prax Air, and we want to finish
24 this project up in our time and we want it out of
25 here.

1 So it's taken a lot of us a long time, but I
2 do think we do have a consensus and we can move
3 forward and get this job done. So with that, I'd ask
4 the Corps to work with Prax Air and to get this
5 cleaned up, this portion cleaned up as quickly as
6 possible, and then we'll move on to the next section.
7 Thank you very much.

8 MS. KREUSCH: Thank you. Mr. Carl
9 Calabrese, Town of Tonawanda Supervisor.

10 MR. CALABRESE: Thank you. I think with
11 this announcement this evening and this presentation
12 that we are back on track for a very sound and
13 thorough cleanup of the Prax Air site and the
14 continuation of other sites in the future. At the
15 last meeting I expressed a great disappointment at
16 what I saw was a change in direction, and I wanted to
17 reserve judgment, however, because my experience
18 dealing with the Corps of Engineers to that point had
19 been very, very favorable, specially when compared to
20 the old days of the Department of Energy. So I did
21 reserve judgment, hoping that subsequent meetings
22 would produce a modification and a change of what we
23 saw in this building just a few weeks ago.

24 Over these past several weeks there have been
25 a number of meetings and conversations and

1 re-examination, and that produced the numbers that you
2 saw tonight, and I am very pleased to see those
3 numbers and very pleased with the reaction and the
4 responsiveness of the Corps of Engineers. This is a
5 group that's focused on the prize, and the prize is
6 cleaning up this material and removing dirt from the
7 Town of Tonawanda to a proper facility for long-term
8 storage. That focus was never existent before when we
9 were dealing with the U.S. Department of Energy, and
10 it has been since the Corps came into the picture, and
11 it continues to be, and again, we had a problem and we
12 needed to refocus. The reaction was everything you
13 could expect of a government agency and even beyond.
14 So I'm pleased with that. I'm glad I did reserve
15 judgment.

16 Colonel Feierstein has been a pleasure to
17 work with, as his predecessor Colonel Conrad was. As
18 I said, I think we're back on track to cleaning up
19 land and opening up areas of land in the Town of
20 Tonawanda that have been restricted before because of
21 this nuclear remedy.

22 MS. KREUSCH: I'm going to call off the rest
23 of the cards. If you're representing an organization,
24 please state the name of the organization that you're
25 representing. Mr. Don Finch.

1 MR. FINCH: I'll be able to talk from over
2 here. I have a couple of questions. About the third
3 slide in, and it was repeated later in a statement,
4 based on public input the level will be less than 60
5 picocuries per gram. That leaves a little question
6 here. Is that a misstatement, due to lack of public
7 input, or just what does that sentence mean? I'd like
8 a little explanation on that.

9 MR. PILON: I can explain that. As we said
10 in the beginning, there's a CERCLA process,
11 Comprehensive Environmental Response Compensation
12 Liability Act, okay. Under that process, there's nine
13 criteria that's evaluated; protectiveness to health is
14 one, and it goes right around, and one of those is
15 community involvement and acceptance. When we had our
16 first public meeting there was some concerns raised.
17 We went back and looked at it, and based on our
18 modeling, we believe that we can commit to the results
19 that the model shows. So what we've done is we
20 confirmed that the process does work.

21 MR. FINCH: I was just wondering where this
22 public comment statement comes in, because really,
23 there wasn't a tremendous amount of comment. I've
24 been working on this thing for five years. The town
25 residents are really asleep on the deal. So I don't

1 know about that. I've been trained, by the way, by
2 many government agencies to be very, very, very weary
3 of what's done, and this is no disrespect towards any
4 particular one. They trained me, they disciplined me,
5 so if I sound controversial, that's where it's coming
6 from. Then I was wondering, why was the comment
7 period extended twice?

8 LIEUTENANT COLONEL MARK FEIERSTEIN: Let me
9 address your first question first. Maybe I'm overly
10 sensitive, but I view my role here, as the Commander
11 of the District, as a very important one, where I not
12 only have to remediate, but I have to gain and
13 maintain public trust, and I personally, at the last
14 public meeting, felt concerned about the picocurie
15 levels of uranium, so based on that, I committed the
16 Corps to that 60 picocurie standard, and that is --
17 it's not part of the formal process, per se. I mean,
18 that's not the way we normally conduct business, and I
19 did that above and beyond the standards, the standard
20 remediation levels. This modeling that we do is an
21 estimate of what is going to remain in the ground when
22 we're done trying to remediate to the 5 and 15 levels,
23 and what I've done is committed to what is going to
24 remain in the ground, and we did not have that before.
25 That's point number one.

1 Point number two -- what was your second
2 question, sir?

3 MR. FINCH: Comment period.

4 LIEUTENANT COLONEL MARK FEIERSTEIN: Why did
5 I extend the comment period? There was a request to
6 extend the comment period last time. When we release
7 the public plan or proposed plan, normally there's a
8 30 day period to allow the public to comment. There
9 were requests to extend it, so I extended it for 30
10 days. That's 60. Because we're having a public
11 meeting tonight -- and I'm not required in any way,
12 shape or form to extend it again, but because we're
13 having a public meeting tonight, I wanted to extend it
14 again, even though we're behind in our remediation
15 schedule, just for public faith and trust, in case
16 anyone had any more comments they wanted to make on
17 this. So what I've done is gone from 30 days to, what
18 is it, 71 days. I've extended the period, roughly, 41
19 additional days just to make sure that anyone that has
20 any comments has full opportunity to air them.

21 And one more point I'd like to make, and this
22 is a side issue, but it's been kind of danced around.
23 On the independent verification contractor. Ray said
24 that is -- that we don't feel that it's necessary
25 because our process is more stringent than it would be

1 if we just hired someone to come and independently
2 check our stuff. But I will make a public commitment
3 to you all, and I've made this to CANiT, and we can
4 invite members of the public out to -- this is when we
5 do our quality assurance, quality control of the
6 remediation here. Not only do I have a very rigorous
7 structure set up in the district to make sure that
8 there's no conflicts of interest, but DEC is going to
9 check it, and also, I'd invite anyone from CANiT, the
10 public, F.A.C.T.S, whatever, to come out with me and
11 we can, in the full scrutiny of the media, under the,
12 you know, under sunshine and all the media spotlight,
13 we can choose some sites to pick to verify that what
14 we're saying we're doing we're actually doing.

15 So what Ray said about that being open to the
16 community and the public and the media, I fully mean
17 that, and take me up on it. I'm making the offer.
18 Call me, and after we remediate, we'll go out on-site
19 and pick sites at random, or someone can say, that
20 looks hot, we'll sample it and make sure that everyone
21 feels comfortable about what we're doing here. That's
22 extremely important to the Corps, not just to
23 remediate it, but that you feel comfortable with the
24 site also.

25 MR. FINCH: One final thing. I'm very

1 suspicious, and when I saw this coming in at the 600
2 figure, and now it's been lowered to the 60 figure --
3 I've seen bait and switch. Again, I'm suspicious by
4 nature. I have to say one thing, F.A.C.T.S. does not
5 go along even with the 60. It is not where we would,
6 ourselves, come from. It looks to me -- and this is
7 only my personal opinion -- we'll throw 600 at the
8 public, if they complain too much we'll drop it down
9 to 60. I think 60 was where it more or less all
10 started at anyway. So we're not really gaining
11 anything. Thank you very much.

12 LIEUTENANT COLONEL MARK FEIERSTEIN: I'd
13 like to make a statement on that. Uranium is not the
14 driving radionuclide, radium is. The slides we put up
15 show -- what was it, point 2 or point 3 millirems.

16 MR. PILON: Point 3.

17 LIEUTENANT COLONEL MARK FEIERSTEIN: As a
18 matter of fact, the level of remediation of thorium is
19 driven primarily by its decay to radium. So radium is
20 the driving radionuclide, and that is the major
21 concern. Uranium is secondary. You recall the slide.
22 Would you like to see the slide again, sir?

23 MR. FINCH: No, I saw it quite a few times.

24 LIEUTENANT COLONEL MARK FEIERSTEIN: Even
25 with all the three radionuclides; uranium, thorium and

1 radium, after we remediate the exposure that an
2 on-site worker will get in a year will not exceed 6
3 millirems, and again, as Ray pointed out, that means
4 -- that's within the NRC guidelines, it's within the
5 TAGM, even though we're not required to meet that. It
6 meets all requirements of CERCLA and is definitely
7 very conservative. That's been independently
8 verified, by the way, and we open our calculations up,
9 and anyone is welcome to go through those. We have
10 nothing to hide.

11 MR. FINCH: Thank you.

12 MS. KREUSCH: Mr. Ralph Krieger.

13 MR. KRIEGER: I have to make a little
14 correction. I found out about another merger with
15 paper workers, it's Local 1 -- 0215, that's PACE.
16 Worked at Prax Air for 32 years. 14 was always
17 considered, by somewhat of a noted specialist, that it
18 was not a building that was contaminated. Now all of
19 a sudden the last thing here that we're hearing, it's
20 a problem. My problem is a simple one. If I recall
21 correctly, Building 14 was built sometime, or started
22 about 1937. It was primarily a pilot project for
23 Union Carbide when they were using the process to
24 extract the uranium. That's basically why that came
25 here from the Manhattan Project, because they had some

1 experience in doing that.

2 My question is -- and I don't know if anyone
3 can answer it here tonight -- is, how did that much
4 contamination get under the foundation of a building
5 that's four or five stories high when it was already
6 built and the floor was already poured and sewers
7 already put in? How did that much contamination get
8 there under a building? Where did that come from?
9 That's my question. Thank you.

10 MS. KREUSCH: Thank you. Mr. Jim Rauch.

11 MR. RAUCH: My name's James Rauch. I'm a
12 pharmacist working on radiation issues for -- back to
13 1983 involving a Niagara Falls storage site out in the
14 Town of Lewiston/Porter. Worked with F.A.C.T.S. on
15 the Tonawanda site when the Department of Energy
16 released their draft environmental impact statement in
17 1993. I fully -- I want to say, first of all, I'm not
18 going to be able to join in any of the feel good talk
19 of CANiT or the politicians, and I fully expect to be
20 cut off. I might as well say this right up. I fully
21 expect to be limited to five minutes. So I'll proceed
22 as rapidly as possible here.

23 F.A.C.T.S. has instituted a lawsuit in
24 Federal District Court to prevent this cleanup from
25 going forward as is constituted. The Army Corps of

2.6.2
1 Engineers has no radiological regulatory authority and
2 they're going about setting criteria for cleanup and
3 picking and choosing, as they call them, ARARs from a
4 CERCLA list. The simple facts are that D.E.C. is not
5 on board, or they weren't on board as of the beginning
6 of April.

7 The DEC radiation director belongs to a
8 council of radiation control, state radiation control
9 directors, or a group. In early April they were still
10 petitioning for NRC, U.S. regulatory agency to produce
11 regulatory control of this cleanup, and that means
12 provide the proper cleanup material. The State of New
13 York's interest, quite cynically in my view, is only
14 because material classified as source material may
15 still be left behind, and DEC, the State of New York
16 will be responsible for it. That's, cynically, their
17 only interest, because up until now, quite frankly,
18 folks, they have been rubber stamping everything that
19 D.O.E. has wanted to do, and that has been contrary to
20 a long established public health cleanup criteria.

2.6.2
21 They have a program called the SDMP. Sites
22 such as this qualify for the program. The criteria
23 involved in that cleanup program would clean Tonawanda
24 up to 5 picocuries for all the radionuclides
25 across-the-board. Option 1 of the branch technical

2.6.2
1 position on uranium and thorium sites. That's what
2 this community should get. That's the minimum we
3 should get. This business about scenarios, industrial
4 commercial scenarios, folks, this is an area where
5 people are going to live for a long time, have lived,
6 have grown crops in the past, have drunk groundwater,
7 okay. This limited exposure that they calculated
8 these low doses for is a very limited industrial
9 commercial exposure. It's not going to protect people
10 for the tens of thousands of years that this stuff is
11 radioactive.

2.6.3
12 The Commander correctly pointed out that the
13 radium is the immediate problem because it's more
14 mobile, it's toxic, it's bone concentrating, it decays
15 to radon gas, which is a very primary concern in
16 residential construction and houses. By the way,
17 radon isn't addressed here at all. Radon is simply
18 brushed under the main exposure product at the end
19 here. Radon gas is not even being counted in here,
20 okay, in the criteria. It's addressed under separate,
21 very lax E.P.A. criterion that allows 200 millirems
22 per year of exposure, basically.

2.6.4
23 So basically, what F.A.C.T.S. has done is
24 gone to Federal Court. We sought an immediate
25 restraining order to prevent Ashland 2 from being

2.6.4

1 remediated, because once they get the dozers and the
2 scoops out there, they're going to blend and do what
3 CANiT has been promised they aren't going to get, and
4 that is blending in with the rest of the material. So
5 what we have here is a certain amount of radioactivity
6 on the site. They haven't asked for it in the
7 original comments. They haven't given us
8 radioactivities. They won't tell us how much they're
9 going to leave behind. They say that's not their
10 responsibility under CERCLA. So the community is
11 going to be left with this stuff spread all over the
12 site. It decays to thorium, okay. Thorium decays to
13 radium. They said a 40 picocurie cleanup at Ashland.
14 They set that because under CERCLA you only have to
15 really meet 200 years of exposed safety under their
16 projective scenario of exposure, but they went to a
17 1,000. At 1,000, with 40 picocuries of thorium
18 blended throughout that site, okay, in a thousand
19 years you'll have 15 picocuries of radium. You'll
20 build back up the radium, okay. That's all they have
21 to do under CERCLA is meet that standard. Is that
22 good enough for us? That means that 1,000 years from
23 now the site will be out of standard again, and
24 people, if we're still living here we'll be exposed.
25 That's not what F.A.C.T.S. advocates. F.A.C.T.S.

2.6.4

1 advocates getting this material cleaned up properly.

2 As far as uranium goes, if you leave 600
3 picocuries of uranium, you'll have much, much more.
4 We're selling away our future when we've got a desert
5 location where all this stuff can be moved, which is
6 what F.A.C.T.S. advocated, and have it stored at
7 government contaminated property.

8 LIEUTENANT COLONEL MARK FEIERSTEIN: Thank
9 you. We'd appreciate it if you let someone else
10 speak.

11 MR. RAUCH: The Attorney General is a
12 newly elected democrat. The Attorney General has the
13 authority to prosecute this without Governor Pataki
14 and the rest of the D.E.C. --

15 LIEUTENANT COLONEL MARK FEIERSTEIN: I'll
16 address a couple of points now. We will address the
17 inaccuracy point by point in writing --

18 MR. RAUCH: Will I have an opportunity to
19 speak? Thank you.

20 LIEUTENANT COLONEL MARK FEIERSTEIN: -- if
21 I remember, in the formal written comments here. On
22 the lawsuit, all I'll say is I'll let the results of
23 that speak for themselves. Dave, you had a point
24 about Ashland you wanted to make.

25 MS. BARCZAK: Last summer the Judge

1 dismissed all action against the Corps of Engineers on
2 the lawsuit. Therefore, we proceeded with Ashland 1
3 and the Building 30 demolition.

4 MR. CONBOY: David Conboy from the Corps of
5 Engineers. Our cleanup criteria was 40 picocuries.
6 We fully expected when we remediated the site we'd end
7 up with 12 picocuries per milligram. When we
8 completed it we ended up with a site-wide average of
9 about 5 picocuries per gram. So we're well below any
10 of the criteria that Jim has pointed out.

11 LIEUTENANT COLONEL MARK FEIERSTEIN: And
12 that is due to the conservative nature of our
13 remediation. We're very, very careful, and we err on
14 the side of caution. We'll address all the
15 inaccuracies point by point in writing. Who's next?

16 MS. KREUSCH: Mr. Alan Bruce.

17 MR. BRUCE: I've been working in this
18 business since 1951, first learning about it at the
19 University of Rochester, supported on a fellowship by
20 the Atomic Energy Commission, and I was at Oakridge
21 National Laboratory, and I've been at U.B. 40 years
22 and retired two years ago and taught this subject,
23 biological effects of radiation, radiation safety and
24 how to institute programs and carry them out, and the
25 use of instrumentation for all of this. So I've been

1 in this a long time, and I must say, it hasn't been
2 exactly a happy business to be in all these years.
3 The rules have changed from when I started, a thin
4 pamphlet so that I could keep up with everything. I
5 solved a lot of the problems. We have had very few
6 problems on the University campus with getting rid of
7 it, but it's been extremely expensive and got
8 expensiver as time went on.

9 I would like to see the government cleanup
10 its mess to the same amount that us users of
11 radioactivity have had to do for all these years, but
12 then nothing is quite fair, and I guess I wouldn't
13 really expect it to be another way. But what I would
14 like to address is what we base all this on. Now, one
15 of the problems is that very little research has been
16 done on very low levels of radioactivity. Nobody
17 believed all levels were dangerous, and we have --
18 slowly there has been an awakening to this. So that
19 the amount of basic research and measurements that
20 have been done is far less at low levels than at the
21 other end.

22 People have been more interested with the
23 levels around nuclear detonation and a lot of other
24 things, very high levels of radiation. Research has
25 not been supported at the low end because most people

1 didn't believe in the business, didn't believe low
2 levels were any problem. This isn't quite -- has not
3 quite been found to be true.

4 The other thing is the regulations that are
5 out there. The regulations didn't come down to being
6 carved in stone. It didn't come down from on high.
7 These are things that have been instituted by groups
8 using inadequate research and guesses as to where it
9 ought to be. Of course, they don't call them guesses,
10 but statisticians have been associated with this, and
11 Mark Twain made comments about statisticians, they're
12 liars, damn liars, and statisticians -- I don't mean
13 to insult statisticians, but having published a number
14 of papers and carried out research in my life, and
15 observing others that do the same thing, if you want
16 to prove something, you look at it and say, is it
17 really true or isn't it, and if it -- what you think
18 is true, you try one method of statistics after
19 another until you find one that agrees with what
20 you're hypothesis was about how it ought to come out.
21 Now, I never did that myself. I didn't apply
22 statistics to mine. I could look at the data and say,
23 everybody will accept this. Of course, I did a lot of
24 my research on microorganisms where you can study
25 effects of radiation on zillions of it, and it wasn't

1 like animal studies, where animals are very expensive
2 so you try to do your study with as few as possible,
3 and there are real problems in coming up with solid
4 data in that way.

5 To comment on the regulations. The ones that
6 came out in 1994 that apply, the more recent ones, if
7 you look up radon and you carry through the
8 calculations and measure what is through our
9 atmosphere, common background radon and decay products
10 in there, allowed release from facilities using
11 radioactive material is below what's in the air
12 anyway, which tells me the equations that they use and
13 the safety factors that they plug in brought radon way
14 below what we have lived in forever as the human race.

15 So there's something wrong with the
16 regulations. They might not all be in the same
17 direction, but anyway, they're not perfect. What I
18 would like to get at is, we'd be better off to
19 consider the levels with respect to what mother nature
20 has put there and what populations have lived with
21 since we became a species. Now, if you look up what
22 the background radioactivity is from a variety of
23 nuclides that are commonly found, you add these up and
24 it comes up to about 15, slightly over 15 picocuries
25 per gram. The world wide average of radioactivity --

1 MS. KREUSCH: Excuse me, Mr. Bruce.

2 MR. BRUCE: Now, these contribute different
3 things, but when you measure this, it's rather
4 difficult to sort out all these radioactivities and
5 identify what they are when they are present in very
6 low level. It's very easy if you have large amounts
7 because you can look at the spectrum, you can measure
8 the energy, but when you're down in the few picocuries
9 per gram range, there is so little radioactivity
10 coming out that you have to count your samples for
11 extremely long periods of time, and the natural
12 background fouls it all up.

13 MS. KREUSCH: Mr. Bruce, can you wrap up?
14 You've used your five minutes up.

15 MR. BRUCE: I've put a lot of people to
16 sleep. Okay. The other thing about -- just one more
17 word about the level of radiation in the regulations,
18 is that they started out five hours per day, early in
19 the century, was allowed to workers, and it slowly
20 came down to a tenth of an R per day. You can see
21 where it's going. All the regulations have gotten
22 lower and lower in what's being allowed and, in fact,
23 when I first came to work at the University -- I
24 plotted this on a log plot, extrapolated down, and by
25 now we shouldn't be able to release anything because

1 anything we release is going to be above natural
2 background, if you keep extrapolating down and making
3 them lower. So it gets very complicated, but the
4 other thing I -- just one more word.

5 The chemical problem with uranium. Uranium
6 is more dangerous as a chemical than from the
7 radioactive unit. It's extremely toxic. At Rochester
8 one of the big projects was studying these high atomic
9 number of materials, and uranium did in all sorts of
10 things, and it was more from the chemical.

11 MS. KREUSCH: Excuse me, Mr. Bruce.

12 MR. BRUCE: I've said enough.

13 MS. KREUSCH: Thank you. Lee Lambert, you
14 have a question mark on your card. Did you want to
15 comment?

16 MS. LAMBERT: Yes. I was very disappointed
17 with the acceptance from the CANiT Committee of this
18 proposal as it is. I really expected them to continue
19 some of the anger that I saw at the last meeting. I
20 have been in contact with the DEC, and I don't know if
21 most of the audience knows this, or the audience knows
22 it, but the DEC has been corresponding with the Corps,
23 Army Corps, and has told them numerous times, and
24 several of them requested the use of an independent
25 verification contractor, and they couldn't understand

1 why the Army could not agree to this and wanted them
2 to do likewise. That has not been brought up tonight,
3 and I just thought I'd let everybody know that's what
4 the DEC is saying. Perhaps Jim is a little concerned.
5 They have been doing their job. The release for
6 industrial land use includes only industrial
7 commercial and the -- that means that a thousand years
8 from now -- which Jim has pointed out, and other
9 people have -- it will still be contaminated, and the
10 fact that they're asking for Building 14, even if they
11 take it down -- and they don't want to take it down
12 because it's contaminated underneath it -- but if they
13 do take it down they'll have to clean up what's
14 underneath it, and at some point -- that building is
15 not going to last a thousand years -- it is going to
16 come down. Someone else is going to inherit this
17 land, and so are the people of this area. We can't
18 assume, as the DEC said also in their comment, we
19 cannot assume that this will be continued to be used
20 as industrial commercial. We can't assume this will
21 never be residential any more than we could assume
22 that Love Canal, once it was discovered, would never
23 be used for homes again, and we can go on with what
24 Dr. Bruce has said, I'm sure, that, yes, there are
25 some other circumstances to consider, but

1 nevertheless, if we're talking about a cleanup, and a
2 chance for a good cleanup, why are we settling for
3 600? 600 could mean spread it around, it could mean
4 rototill, it could mean average of 600 over here and
5 nothing over there, and come up with 60 if you have
6 enough averaging over three meters deep. So this
7 could be a real problem. Let me see.

8 I just wanted to read you -- this is the
9 D.E.C.'s comments. Pursuant to CERCLA, the Atomic
10 Energy Act and the New York State Environmental
11 Conservation Law, we do not concur with the proposed
12 plan as currently written. The major problems include
13 the following; the proposed uranium criterion of 600
14 picocuriums per gram is not acceptable. The Corps has
15 not demonstrated that the 15 picocurium criterion is
16 justified, and that relates to an E.P.A. directive.
17 This E.P.A. directive allowed them to use the 15
18 picocuries. The proposed plan does not include the
19 use of an independent verification contractor, and the
20 methods the Corps plans to use to determine compliance
21 with the cleanup criteria are not defined, and then
22 they include specific comments related to that, and I
23 think that's all I need to say. I think I've covered
24 all my points.

25 I do want to make it -- I'm very disappointed

1 that the people in Tonawanda have not woken up to this
2 situation. You see all these beautiful homes nearby
3 here, and we can argue there's a lot of background
4 radiation, that's true, but why should we sit still
5 for this? Why should we say, that's okay, and leave
6 Building 14, leave it to Prax Air? If they leave
7 town, then what?

8 LIEUTENANT COLONEL MARK FEIERSTEIN: Three
9 points, and I'm going to quote a couple of numbers off
10 of top of my head that are going to go in the official
11 record here, and I know these numbers off the top of
12 my head because we've analyzed this thing to death.

13 First of all, about residential standards.
14 The cleanup that we're doing here does meet
15 residential standards, okay. We're remediating this
16 site to the point that, given all applicable laws,
17 regulations, et cetera, a housing development could be
18 built on this site after we remediated. So it is
19 being remediated to a residential, or it is being
20 remediated so that it is fit for residential
21 occupation. The millirems per year, given the
22 assumptions of residential occupation, I believe is
23 21, is that correct?

24 MR. STEVENSON: Yes.

25 LIEUTENANT COLONEL MARK FEIERSTEIN: And

1 this is under the 25 NRC guidance. Point number two.
2 D.E.C.'s statement that the 600 picocurie remediation
3 level for uranium is unacceptable, I've seen that.
4 That's incorrect, and it demonstrates a lack of
5 understanding of the radionuclides that we're dealing
6 with here. As I said before, the driving radionuclide
7 is radium. The thorium remediation levels are
8 calculated based on the half-life of thorium and its
9 decay to radium. As far as the uranium goes, 600
10 versus 60 picocuries per gram means a millirem delta
11 of point one millirems per year under the industrial
12 commercial scenario. Point one millirems per year. I
13 don't want to get into a whole lot of comparisons, but
14 I think that you get about 5 or 6 millirems per year
15 from the food that you eat. So we're talking an
16 almost nonexistent difference there, and it just
17 illustrates a lack of understanding of the
18 radionuclides that we're dealing with.

19 Again, we're going to address all of these
20 issues formally in writing, but you'll see when we
21 address it in writing, they're going to be the same
22 numbers that I just quoted to you and that I'm telling
23 you is the level to which we've analyzed this.

24 One more point on the independent
25 verification. The Corps is not going to have

1 independent verification of -- we're not going to hire
2 a contractor to do that because our process is so
3 rigid and our process is so rigorous and New York
4 D.E.C. is verifying what we remediate, but in addition
5 to that, it is open to the public, and we can do this
6 with the media present and have you come out there and
7 choose whatever sites you want to test and we will
8 test those, and the media can follow it, and we'll
9 watch the test results as they come in, and you're
10 going to see that what I'm telling you is the truth,
11 okay.

12 So we have a very rigorous process and we
13 don't need to hire a contractor, because I'm telling
14 you it's rigorous, and I invite you and the media out
15 to watch us check it, and we'll address the rest of
16 the points in writing.

17 MS. KREUSCH: Thank you. Kim Hanobeck, you
18 had a question mark on your card. Do you wish to
19 speak tonight?

20 MS. HANOBECK: I just have a quick
21 question. I've lived in this area for 15 years and I
22 have two kids that go to this school. I'm not sure --
23 I mean, there's two hot spots that are over here that
24 they show is close to the school. Have they tested
25 any soil by the schools yet? They say there's sirens

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that will alarm the school. That makes me more nervous knowing that.

Another question. Why didn't you answer this gentleman's question that worked at Prax Air? Building 14, how did it get underneath it? If that building was never contaminated to begin with, how did it get in the building to begin with? Is it moving? Is it going into the soil and moving across different areas? Thank you.

MR. KENNA: Tom Kenna, project engineer. We aren't positive how the material got under there. The building was built in the 1930's to our knowledge. We don't know if it was the fill material that was used in the construction. As stated previously, the building was built in the 1930's, to the best of our knowledge, and we don't have definite answers on how that material got under there. We know it's under there. We don't know if it was the fill material that was used in the construction operations. Some of it may have leaked through the floor or out of floor drains. We aren't positive.

MS. HANOBECK: Have they tested any soils around the schools?

MR. KENNA: I believe there was one or two borings taken in the area. Again, to my knowledge,

1 those results were very low level, and there's also no
2 reason to believe that any of the material was
3 deposited in this area. So there was some limited
4 sampling and testing.

5 MS. HANOBECK: Do they have reports on
6 that?

7 MR. KENNA: That information is in the
8 record. Yes.

9 LIEUTENANT COLONEL MARK FEIERSTEIN: If
10 someone has reason to believe that there's some
11 contamination at the schools, I'd like to know that,
12 and we'll definitely check that out. Right now we
13 have no reason to believe that there is, but please
14 give me that information and we'll check it out.

15 MS. HANOBECK: It seems kind of if it
16 wasn't in Building 14 and it might be -- who knows, it
17 could be even under the school for anybody's knowing.
18 If it's gone that far --

19 MR. SWANEK: In 1982 this thing broke loose
20 with a study, a report that the state assembly did,
21 and they released this issue, and big headlines, and
22 radioactive material in the Town of Tonawanda, and
23 contamination and everything else, and some may
24 remember that. Since that time -- and the Colonel
25 wasn't here at that time -- there's been just study

1 after study after study done by the Department of
2 Energy. New York State got involved in it after the
3 report was issued. There was a vehicle flown in here
4 that went down every street that could document any
5 radioactive material in the area as well, because
6 there was a fear that some people may have taken some
7 soil for landscaping or for vegetable gardens or
8 whatever else, and all -- I mean, I'm not kidding you
9 folks, there's this much paper on this issue, and the
10 Department of Energy has it. To our knowledge, and
11 all of the reports that I've read -- the County of
12 Erie has constantly read the reports on this -- we
13 have never seen anything that showed any significant
14 result from the movement of this radioactive material,
15 but you don't need to take my word for it. I'm not
16 asking you to do that. I'm just trying to save you
17 all of this, because we're not trying to bury you in
18 paper. I have never in my life seen an issue studied
19 so much as this issue. I think there's more money
20 spent on studying this issue than there was on the
21 cleanup. That's what finally brought this thing to a
22 head. The County would be glad to supply you with
23 information. We would gladly try to seek the original
24 New York State Assembly report in 1982 that released
25 that the radioactive material was here, and again, we

1 have never seen a report that -- and these reports
2 were all released publicly, so they were documented in
3 the newspaper, if there was anything that was found
4 that would pose a threat other than what they have
5 documented in their studies on the Linde Site and over
6 at the two other sites where the material was. But
7 we'll be glad to get that for you. I don't think he
8 has -- this goes back 20 years, and I'm not sure they
9 went back that far, but it's available and it's yours
10 if you'd like it.

11 MS. HANOBECK: I have one other quick
12 question.

13 MR. SWANEK: Not only did they bring in
14 this piece of equipment to survey the material, but
15 then they did a helicopter flight up and down every
16 street, and Carl and I got calls because they thought
17 we were attacking the area, because I think it was a
18 military helicopter, and it documented -- you remember
19 the darn thing, but they went at low levels and they
20 went over every house and documented every piece of
21 land and whether there was radioactive material, and
22 then they did a study on that to see if there was any
23 issue of radioactive contamination other than the
24 normal background, and they found nothing as well, and
25 that's documented too.

1 MS. HANOBECK: Can we get a copy of that?

2 MR. SWANEK: Talk to Mr. Tobe. We'll chase
3 it. Over the 20 years it's this much. It's out there
4 and it's been done. We got to a point where we were
5 studied to death, and I can tell you, the Department
6 of Energy, they had to spend -- and I don't have a
7 figure -- but they had to spend between \$10 to \$15
8 million studying this issue. But you go through us
9 and we'll get you to those agencies and find every
10 piece of paper that's available out there on this
11 thing. I didn't keep them. After 20 years, I figured
12 we were beyond that.

13 LIEUTENANT COLONEL MARK FEIERSTEIN: I have
14 one more thing, sir, then I'll get to you for your
15 question. One more point. I said before that I was
16 committed to full and complete disclosure in all of
17 this. I'd like to extend an invitation to any of you
18 to come by and visit us in the district, and if you'd
19 like, we'll sit down and explain how we calculated out
20 some of these numbers and show you in greater detail
21 anything you want to see, because again, it's
22 important not just to do the remediation, but it's
23 important that you trust this, and Abraham Lincoln
24 once said something to the effect that, if he even
25 read let alone addressed all of the complaints that he

1 got, he would never have time to do anything else. So
2 I don't expect to be able to conduct a public meeting
3 like this without hearing opposition, you know, but
4 again, I will make this totally and completely open,
5 both the independent verification piece -- you can
6 come back to the district, we'll take you around, show
7 you where we work, how we calculate this stuff, go
8 into more detail, any area you want, totally open,
9 above board, no secrets, and I don't want anyone to
10 think there's any conspiracy to hide anything. We
11 have a web site. You can send me e-mails. Click on
12 welcome. You get a picture of me there with a little
13 e-mail link at the bottom. If you can stand looking
14 at the picture, go down and click on the link. Send
15 me e-mails. Call us, 879-4300, and I'll be happy to
16 take you through the district and see how we do this.
17 I would not get up here and say that wearing this
18 uniform if that was not true. Sir?

19 MR. FINCH: There were two bio surveys
20 done; one was a high level, one was a low level. When
21 I got it through the Freedom of Information Act, I
22 immediately got the one for the high level flyover.
23 The one for the low level, couldn't find it. It's
24 here, it's there. We don't know where it is. I ended
25 up going to Vice President Gore, and just like that,

1 within two weeks I had not only the report but color
2 photographs laying out, like, the levels of radiation
3 involved with this low level survey, and I'd like to
4 ask, this is the first I've ever heard mention of
5 vehicles going on the street checking radioactivity,
6 and I'd like to get together with somebody on that.

7 MR. SWANEK: We'll try to find all this
8 stuff. '82 is when it started. We'll try to find all
9 of it if that's what you need. We got some of it and
10 I'm sure it's in a box somewhere.

11 MR. FINCH: Relating to the lawsuit. I'm
12 not an attorney, our attorney is not here, so I have
13 to use lay terms. That lawsuit is not dead. It is
14 merely laying off to the side waiting till the whole
15 cleanup operation is done, then it kicks in. Now,
16 this is due to the CERCLA versus -- see, I'm not up on
17 that, who's responsible for the material. So don't
18 ever feel that it is dead. It is laying in the grass
19 waiting till it's done. That's what we were ordered
20 to do. Thank you.

21 MS. HANOBECK: I have one more quick
22 question on what I was asking. What precautions are
23 you going to take if there's an accident or something
24 happens to the residents around this Prax Air area?

25 LIEUTENANT COLONEL MARK FEIERSTEIN: That's

1 a very good question. I'll pass it on to Ray and Tom.

2 MR. PILON: What we do, we have a monitor up
3 on top of the school. They're air monitors, that's
4 what they are, and there's an air monitoring plan that
5 is produced by a contractor, it's required by us, and
6 they surround the site and they're read every day.
7 The health physicist checks the data, and if there's
8 any indication of any elevated readings in the air, we
9 stop the work, we see what's wrong. Hopefully it's
10 just a bad monitor, but if it's a result of any
11 activity the contractor is doing we stop them until we
12 figure it out. We won't let them begin until he's
13 either addressed the problem or we can figure out how
14 to do it safely. They do run 24 hours a day every
15 day.

16 MS. KREUSCH: Ralph, we'd like to finish the
17 comments and then go to questions, is that okay?
18 Ms. Dooley, you indicated --

19 MS. DOOLEY: My question was taken care of.

20 MS. KREUSCH: Thank you. Mr. Frank Lee.

21 MR. LEE: I was one of the few thousand
22 people that made the atomic bomb. I saw a lot of
23 uranium, I lived with it, and I'm fairly well
24 acquainted with it, and it sort of surprised me that
25 such an issue would be made of the so-called radiation

1 problem. In the past people had their issues to scare
2 them and had to be corrected. The case of a witch you
3 tied some unfortunate lady to a pole, piled some
4 firewood around her and set it on fire, that took care
5 of it. Today we have things like asbestos, that's a
6 naughty word now, and radiation is a naughty word
7 also. The funny thing of it is, though, that
8 radiation is something you cannot avoid. You get it.
9 You're exposed to it all the time. 40 percent of your
10 radiation in your lifetime is going to come to you in
11 your food. You want to stop eating? So we ban foods
12 that have radiation in them and then die of kidney
13 failure because potassium in the food that we eat is
14 an essential element for life. It's also radioactive.
15 It comes in your well water. You want to stop using
16 well water too, spring water? Can we give up lemons,
17 grapefruit, a lot of things with potassium in it?
18 Well, let's be reasonable about these risks we face in
19 our lifetime. Some of them are very small risks.
20 Some are them are very large risks. Sometimes we're
21 willing to ignore a very large risk just because it
22 pleases us.

23 One of the larger risks we face in our life
24 here, it takes 40 thousand minds a year, could be
25 solved very easily by abolishing automobiles. Nobody

1 is going to do it, of course. And there are some very
2 tiny risks in our life and radiation is one of them.
3 But it gets to be a big issue for some people, much
4 like the witches were a big issue at one time, and
5 ghosts and demons, and it's something we have to fear,
6 and it's something we can capitalize on and we express
7 ourselves through this fear.

8 Well, the simple thing to do, perhaps, to be
9 done is become educated as to how much radioactive
10 material there is around here anyway. You're going to
11 walk on it, live with it and eat it. 20 percent of
12 the radiation you get in your lifetime is going to
13 come from around you. A large part of it is going to
14 come from the building materials in your house,
15 especially if you have a basement. 40 percent is
16 going to come from the food you eat, and you don't
17 want to give that up, and another 40 percent is going
18 to come from the sky, and, of course, you can't go
19 hide from that. So we got to face up to the fact that
20 radiation is a fact of life and only in extreme
21 situations should we be worried about it.

22 We should not be spending enormous amounts of
23 money to cure little things. We should spend enormous
24 amounts of money for big things. You can save a life
25 for \$30 million from radiation if you want to do it,

1 or spend \$300 for a life somewhere else in a foreign
2 country, children that cannot afford inoculations. We
3 don't want to spend \$300 on them, do we? We have to
4 be reasonable. In our lifetime we're going to face
5 issues. We should spend our money where we carry the
6 biggest risks, and we should ignore the little risks
7 or put them on a back burner, and radiation is one of
8 the smallest risks in our lives, and we should not be
9 spending an inordinate amount of money trying to solve
10 it.

11 Two years ago I visited the place where all
12 this uranium came from. It's a place in Utah. It's a
13 small town on the edge of a national monument. I
14 went, walked around the dump which is left over from
15 the uranium mine just outside of town. People there
16 don't seem to be concerned at all about radiation.
17 They shouldn't be. They're getting about 10 times as
18 much as we are anyway. And there's places in
19 Pennsylvania where you get enormous amounts of
20 radiation, and they're not worried about it. There
21 are places in the world where the radiation level is
22 20 times normal and people are not going to move out
23 of there either. So we ought to get this into a
24 sensible perspective.

25 MS. KREUSCH: Thank you. Is there anyone

1 that didn't sign up to comment tonight that has
2 changed their mind and would like to comment?
3 Dr. Dooley?

4 MR. DOOLEY: David Dooley. I'm Dr. Dave
5 Dooley and I'm with the MJW Corporation, and Ken had
6 asked me to come up and say a few words about the fact
7 that the number that has been used by the Corps to
8 look at their modeling is something that maybe they
9 would like to have you understand in more of a
10 layman's terms.

11 Typically, when the general public hears the
12 word modeling, their eyes roll back in their head and
13 they say, what model are you using. And one of the
14 things that -- unfortunately, the D.O.E. are the
15 people that designed this model, but it is a good way
16 to assess the materials that you have left on a site
17 after you clean it up, and one of the key elements
18 that you use in developing all your models is try to
19 be as conservative as you can with the perimeters that
20 you pick to determine what dose you have at the end,
21 and this model originally started out as, let's make
22 sure we pick the worst perimeters for someone left
23 living on the site after we clean it up. That is a
24 farmer that has a well that's got his cattle on the
25 site, is growing a large garden, and throw all these

1 conservative factors in, he's eating everything out of
2 his garden, he's -- he's eating all the farm animals
3 that he grows, everything you can possibly imagine, he
4 throws that into the model.

5 On this site, it's pretty tough looking at
6 the demographics of Tonawanda to say that you're going
7 to have a situation like that, where you have a farmer
8 with thousands of acres, or even with a few hundred
9 acres, or even with 10 acres, that's going to have
10 farm animals, grow a garden and live completely off
11 the land. It just isn't reasonable. So what is
12 reasonable is where you have a scenario that you have
13 a resident and he has a small little garden and he's
14 eating a certain portion of the vegetables out of that
15 garden, but he doesn't have any well water because the
16 town has municipal service, and the expense of putting
17 in a well and even getting a well that may be
18 productive in this area is pretty hard to come by from
19 a reasonable standpoint. What you have is a guy
20 living on a piece of land on this site after they
21 clean it up, that doesn't have a well, he's living off
22 of regular water that's supplied by the city or by the
23 town, and he's got a little garden, and you assume
24 he's eating 5 or 10 percent of what he grows, a lot he
25 gives to friends, but you focus in on him and say,

1 what kind of dose is this person going to get at the
2 end, and you're assuming a lot of conservative factors
3 here, and with the industrial scenario, you know, guys
4 going to work, he's going to be there eight hours, so
5 the dose is going to be lower. He's not going to be
6 farming the property, so you're going to get a six
7 millirem dose.

8 As the Colonel explained, when you have a
9 resident there, the dose is about 21 millirem, and
10 again, this resident is the most conservative resident
11 you could have. Not everybody is going to have a
12 garden, not everybody is going to have a house with a
13 basement. So all these factors tie into a number that
14 is below any federal guidelines that the NRC has
15 promulgated to date. It's in the range of where the
16 E.P.A. wants to be, it's in the range of the TAGM, and
17 as the last speaker pointed out, the reasonable part
18 of living on the face of the earth is we are all
19 exposed to radiation every day of our lives, and like
20 it or not, there's radon out there and, you know,
21 between cosmic rays and what you have on the face of
22 the earth, you're eating about 300 millirem a year,
23 like it or not. You can live in lower radiation
24 areas, you can live in higher radiation areas, but
25 human beings, we wouldn't be here if we weren't able

1 to deal with natural radiation. If we couldn't deal
2 with it from a genetic point of view, we'd be done.
3 We'd still be, you know, in amorphous mess in a sea
4 someplace, and we'd be a single-celled organisms.
5 That's a critical issue when you talk about taking the
6 standards lower and lower and you talk about
7 protecting people. This is a very, very low number to
8 try and meet, and is it a reasonable number, yes it
9 is, because you want to try and protect the public to
10 the extent, largest extent possible, and with the
11 numbers that I've seen that they have for this
12 cleanup, and the models that we've run, the numbers
13 are reasonable and the cleanup that they've done
14 already with the Ashland 1 site where they have a
15 criteria of 40 picocuries per gram and they cleaned up
16 to 5, and the dose incurred -- as the Colonel said,
17 it's not the uranium that's the driver, it is radium.
18 The key issue is to make sure that the radium stays
19 under 5 because that's where the problem is. When you
20 look at it percentage wise, the radium is 80 percent,
21 85 percent of the total dose here. Take care of the
22 nuclide, take care of business and we'll keep a safe
23 site, not only now but a thousand years from now.
24 Thank you.

25 MS. KREUSCH: Is there anyone else that

1 changed their mind about commenting tonight? Ralph,
2 you have a question?

3 MR. KRIEGER: Yeah. A couple things I just
4 wanted to point out. Chuck Swanek brought up the
5 standing Fink study, that's the military connection,
6 that's dealing with the Love Canal and it does deal
7 with the Linde Site on there. In that reading,
8 there's two volumes of that, and I think it was put
9 out in 1981. That's an interim study. One of the
10 things we keep hearing about tonight is a number of --
11 well, what the picocuries are and what this is. I
12 don't hear anybody saying what the cumulative effects
13 are. Cigarette smoke wasn't a problem. The states
14 going to make millions of dollars within the next
15 couple of years to pay back for all the medical
16 expenses that we consumers who didn't smoke had to pay
17 for the people who had cancer from smoking. Let's not
18 make any mistake here. The doctor is absolutely
19 correct. Uranium is a toxic material. One of the
20 most toxic materials outside of Plutonium. That's
21 what we're dealing with here. We're not dealing with
22 the sun, we're not dealing with the air, we're not
23 dealing with the plants and the flowers. We're
24 dealing with material that was unnaturally put there
25 and processed to its highest degree for nuclear

1 weapons. It was not made to grow flowers. Make no
2 mistake on that. This is a lot of bull around here
3 when they talk about this. This other gentleman got
4 up there, and I understand his position. However, if
5 it's your child, your grandchild, or your mother or
6 your father who got contaminated, however it happened,
7 and they got cancer as a result of this, what would
8 your opinion be? That's all I have to say.

9 MS. KREUSCH: Thank you. Mr. Finch?

10 LIEUTENANT COLONEL MARK FEIERSTEIN: I'd
11 Like to put in perspective the millirems from the site
12 and the smoking. From our site industrial commercial
13 usage, 6 millirems a year, smoke two packs a
14 cigarettes a day, 8,000 millirems per year. Just want
15 to put it in perspective. Sir?

16 MR. KRIEGER: The contaminates from Prax
17 Air, the railroad cars went out to either Arizona,
18 Utah or California. They refused them. Now, can I
19 expect those things to come back here in Tonawanda?

20 MS. BARCZAK: Nothing has been refused,
21 sir.

22 MR. KRIEGER: It hasn't?

23 MS. BARCZAK: Nothing has been refused.
24 Nothing has been sent back.

25 LIEUTENANT COLONEL MARK FEIERSTEIN: The

1 remnants from Building 30 went to California, and much
2 to do was made about that, and I have to put that in
3 perspective for you some. California Regulatory
4 Agency, if you remember the name --

5 MS. BARCZAK: I believe it's the Department
6 of Radiation or Health and Safety.

7 LIEUTENANT COLONEL MARK FEIERSTEIN: -- went
8 out to the site where this material was and did a
9 radiological survey and found no levels higher than a
10 background level.

11 MR. KRIEGER: Thank you.

12 MS. KREUSCH: Mr. Finch?

13 MR. FINCH: I'd like to clarify several
14 things, especially this point right here. Right in
15 front of me is a copy of what came out by the
16 Associated Press, they're not saying that the material
17 from Building 30 is too high in radioactivity. What
18 we are -- they're arguing out at the California end
19 is, wait a minute, we accept material higher than
20 radioactivity but it has to be from natural sources.
21 The Building 30 debris is not natural sources, and
22 that's where the whole battle started. That's
23 according to contacts I have throughout the west.

24 Another point. I respect Mr. Lee, but I've
25 got about 200 plus people that would like to sit down

1 and talk to him about getting cancer. Those are the
2 workers. Unfortunately, they're all dead, so I'm
3 afraid they won't have a chance to discuss this with
4 Mr. Lee. I'm not joking people. Long-term exposure
5 to low level radioactive waste, the cancer cases are
6 still blossoming among the Linde workers, the factory
7 workers; one a month, Ralph, sometimes two, so the
8 facts are there. The facts are there. Thank you.

9 MR. CALABRESE: As Legislator Swanek said,
10 we've been at this a long time and folks, let's not
11 lose the big picture here. We can show tremendous
12 progress, even go so far as to say we can claim
13 victory. Material is leaving this town. That never
14 happened before. It's gone. We've got a plan to
15 clean up even more sites. It's leaving. We've got a
16 major site along the waterfront that we agreed to
17 clean up to 15 picocuries that actually got cleaned up
18 to 5. We are meeting or exceeding all of the state or
19 federal standards. I can't remake the standards.
20 Nobody in this room is going to remake the standards
21 anytime in the reasonable future. Let's not make the
22 best the enemy of the good. We are cleaning our land
23 up. We are meeting residential standards. That
24 didn't happen before. We all agreed at one point that
25 60 picocuries would be acceptable for Prax Air. We're

2.14.1
1 now going to clean up to 51, and who knows, by the
2 time they finish it may be even lower. So let's
3 concentrate on the big picture here. This is
4 progress. There are communities all over the country
5 that are still arguing with the federal government to
6 remove their material. They would change places with
7 us in an instant to be waiving good-bye to the trains
8 out to Utah and California, because they've not been
9 able to make the progress we've made. We've made the
10 progress because of this organization called CANiT. A
11 bipartisan effort to speak for the community with one
12 voice, and we've done that for 11 years. That's
13 unheard of in this country, and politics in this area
14 is pretty tough, it's not noted for cooperation, and
15 this CANiT is an exception. Because of it we have
16 seen Ashland 1 cleaned up, we are about to witness
17 Ashland 2 cleaned up, we are seeing the cleanup of
18 Prax Air. I don't know about you folks, but from
19 where I come from, that is progress, and the job is
20 being done, and let's not delve into the minutia here
21 to the point where we ignore and overlook those trains
22 leaving filled with radioactive dirt and the Town of
23 Tonawanda reclaiming hundreds of acres of very
24 available land along the waterfront and cleaning up a
25 very important industrial site. So, please, let's

1 keep this in perspective.

2 MS. KREUSCH: Ralph?

3 MR. KRIEGER: Just one more. The doctor
4 brought up studies. Dr. Thomas Mancuso, federal
5 employee, and Alice Stewart did a study and they
6 released it, I think, in 1964, on 225,000 nuclear
7 workers. When Dr. Stewart released that --
8 Dr. Mancuso released that study it was immediately
9 seized by the federal government and he was fired, and
10 today I do not think we can get that study. I think
11 it's still under lock and key. So do you trust your
12 government? Trust what's verified as we know with the
13 golf war syndrome.

14 MS. KREUSCH: Mr. Swanek?

15 MR. SWANEK: I just want to leave a couple
16 of thoughts. Sometimes these things just get out of
17 control as far as where we're going here. I have
18 lived in the Town of Tonawanda and Kenmore all of my
19 life, and my parents have lived here almost 60 years.
20 My parents remember when the nuclear material was
21 being built for the bomb that ended the war. Almost
22 60 years ago they did this work here, and 60 years ago
23 nobody knew about the radioactive contamination that
24 they know about today, but our community participated
25 in something that was of a national importance to our

219.
1 people and to our nation. 60 years later the material
2 is still here. The only thing that's different is
3 that it's getting cleaned up. I can't change what
4 happened 60 years ago. I can't change things for the
5 people who died. I can't change what happened at Prax
6 Air. The only thing that I can change, that Carl can
7 change, that Ken can change, and what we want in this
8 community is to get this material out of here, and if
9 we can meet a standard of a -- residential standard
10 based on regulations that are much more stringent than
11 they were back in the 30's and 40's, then we're
12 following the best procedure we can. We can fight
13 about this till we die, but when that material's on a
14 train and it's going out to a nuclear depository
15 that's been secured and guaranteed to hold this
16 material, I think we're getting something done. And
17 so my vote on this issue is very simple. I deal with
18 right now. I deal with how much money and how hard we
19 fought to get the money for the cleanup and the
20 standard for the cleanup, and I believe, as all of us
21 believe who have worked on this thing for 11 years,
22 who live in this community and have a stake in what
23 goes on here, that we are moving in the right
24 direction.

25 I got to tell you something, folks. I just

1 am tired of all of these innuendoes that are brought
2 up about what happened back then and what's going on
3 and all of these other things. If you sat at those
4 meetings for 11 years -- and I've grown old over this
5 issue, I am tired of the rhetoric. We're going to get
6 this thing cleaned up and we're going to get this
7 material out of here and we're going to do it now and
8 that's it, folks. And if you really don't trust us,
9 and you really don't like us, then you can get rid of
10 us as elected officials, but my epitaph and Carl's and
11 the rest of us is to get it out of here until it's
12 safe. And I'm sorry I'm getting aggravated, but I've
13 been on this train too many times. We have to get on
14 with it so I don't have to talk to you folks about it
15 5 or 10 years from now when you want to live in this
16 community. These guys are the only ones getting it
17 out, and they're getting it out safely and meeting
18 every guideline that we know of. That's it, folks.

19 LIEUTENANT COLONEL MARK FEIERSTEIN: There
20 are no secret files. I invite any of you to come to
21 the district, we'll walk through, we'll pull open
22 drawers and you can see what we do. So far we've
23 gotten 45,500 cubic yards of this out of here, and
24 that went to a site in Utah. Did someone challenge
25 it? Yes, they challenged it, and the result, they

1 lost, and it's there and it's staying there, and we
2 want to continue to get the stuff out of there and
3 we'll continue to make progress.

4 MS. HANOBECK: Did you say there was enough
5 money to clean up the area without Building 14, and
6 will that be passed on to the taxpayers?

7 MR. SWANEK: Ma'am, this is our intention.
8 Our intention is to move this out. This Building 14
9 is an issue between Prax Air and the Army Corps of
10 Engineers. The CANiT recommendation is that that
11 material be removed and this building be cleansed so
12 that we are done with this issue when they leave this
13 area, and the FUSRAP is closed out. There isn't
14 anything left. Prax Air is working on that right now,
15 and that's why when we met we asked for an extension
16 of the time frame, to give Prax Air the time to go in
17 to their company and figure out a way on how to get
18 that equipment out of there so that these guys can go
19 in and do what they need to do, and the Army Corps,
20 basically, has said, we are prepared to fund whatever
21 we need to do at Building 14, and I say, when the
22 anvil is hot, strike, and that's the only issue left
23 at this moment, and it needs to get resolved, and they
24 know it, and we're on their backs to get it done.

25 MS. KREUSCH: Mr. Lee wanted to say

1 something.

2 MR. LEE: I'd like to answer a question
3 about the amount of uranium in the soil. There's
4 about four parts per million, on the average, and some
5 places in the world it's much, much higher than that.
6 It gets up to about 5,000 parts per million, they'll
7 mine it, and that's approximately what it is in some
8 pockets out in Utah. Now, is that going to scare any
9 of you from visiting a national arch, a natural
10 monument? That's right on top of that mine. Now,
11 there are a lot of poisonous things in the ground.
12 You can easily avoid it by not eating. They're
13 insoluble, and your digestive system wouldn't take
14 them up. An amount of uranium in a cubic yard of a
15 dirt is about a penny. For people that are afraid of
16 radioactivity, why don't you move, it might be cheaper
17 to pay the moving expenses. I understand there's very
18 little radioactivity at the North Pole or Antarctica.

19 MS. KREUSCH: Thank you. In the back.
20 Gentlemen, do you have a question?

21 MR. RODENMOCKER: Kenneth Rodenmocker, and
22 I've attended several meetings and never once have I
23 heard anything about Two Mile Creek and the cleanup of
24 that. What is the status on Two Mile Creek?

25 LIEUTENANT COLONEL MARK FEIERSTEIN: Sir, we

1 know of no issues with Two Mile Creek.

2 MR. RODENMOCKER: It was a dumping ground
3 for Linde.

4 MR. HALLAM: Chris Hallam, health physicist
5 with the Corps. To my knowledge we don't have any
6 current data that indicates cleanup of Two Mile Creek
7 is necessary.

8 MR. RODENMOCKER: Has it been checked?

9 MR. HALLAM: Yes, it has. It was checked in
10 the early '90's, I believe, by Bechtel, or the D.O.E.
11 Bechtel was the prime contractor for D.O.E. at the
12 time and they did extensive sampling down the entire
13 length of Two Mile Creek. The data they produced from
14 that study indicated there was no cleanup warranted.

15 MR. RODENMOCKER: Again, I repeat, it does
16 not freeze in the wintertime and it is not a fast
17 flowing creek.

18 MR. HALLAM: I sincerely doubt that's due to
19 radiation. Radiation itself, in the kind of
20 concentrations we're talking about, wouldn't produce
21 the kind of heat that I think you're indicating that
22 would keep a creek from freezing. Also, there are a
23 lot of other reasons why a creek may not freeze, and I
24 think that would be a large jump to indicate that
25 would be why it doesn't freeze.

1 MR. KRIEGER: To answer that gentleman's
2 question. A couple of years ago, when we were at a
3 D.O.E. meeting dealing with Two Mile Creek, it was
4 brought up then, and at the one meeting the same
5 answer was here that you just gave, then at a -- three
6 months later somebody else who wasn't there again
7 raised a question about Two Mile Creek, and Ron Kirk,
8 the engineer in charge, said they did find something
9 on Two Mile Creek, and that's the last we ever heard
10 of it.

11 LIEUTENANT COLONEL MARK FEIERSTEIN: Sir,
12 did the D.O.E. invite you to come to their office and
13 go over all their documents?

14 MR. KRIEGER: It was at a public meeting.
15 This wasn't me. It was in answer to a public
16 question.

17 LIEUTENANT COLONEL MARK FEIERSTEIN: What
18 I'm saying, if someone has concerns about that, come
19 to the district and we'll take out all the paperwork.

20 MR. KRIEGER: One more point I'd like to
21 make that my friends from CANiT brought up. You're
22 absolutely right, I'll agree with that gentleman up
23 there, radiation is not a problem. Is not a problem.
24 It's in our food, it's in our sun, it's all over the
25 earth. Then why are we bothering to clean it up?

1 Simple question. That's what I want an answer to.
2 Why are we bothering to clean it up? Why are we
3 spending over \$60 million on Prax Air alone on a
4 nonprofit? Let's figure that out. Let's spend \$60
5 million and bring some jobs here and some industry
6 here. Why are we spending \$60 million? Answer that
7 question. Simple. That's a simple question, sir.
8 Simple.

9 LIEUTENANT COLONEL MARK FEIERSTEIN: To give
10 you a simple answer.

11 MR. KRIEGER: If the radiation and the
12 nuclear contamination on these sites throughout the
13 whole Western New York area, not just talking
14 Tonawanda, West Valley and the rest of them, Colony,
15 if it's not a problem, then why are we spending the
16 taxpayers money to clean it up?

17 LIEUTENANT COLONEL MARK FEIERSTEIN: Sir, I
18 don't want to --

19 MR. KRIEGER: I've got a real problem with
20 that, Colonel.

21 LIEUTENANT COLONEL MARK FEIERSTEIN: Let me
22 just say that the levels that exist out there now
23 exceed federal and applicable guidelines. We're
24 getting them down to reasonable levels. Right now
25 they're not -- I'll tell you what. If we were to

1 calculate the additional cancer risk from what's out
2 there now, I'm not sure that it would be -- I'm not
3 sure it would be anything that would be very, very
4 high or terrifying. I'm having a problem trying to
5 put that in the exact words, but it is in excess of
6 guidelines. We're trying to get it down to an
7 acceptable level, and what we're shooting for, again,
8 is that dosage of six millirems a year.

9 MR. KRIEGER: But it's not a problem.

10 MR. CALABRESE: We are cleaning this
11 material up for one very simple reason. We cannot
12 stop the sun from shining, we cannot remove the
13 bedrock of the earth that also produces radiation, but
14 this material does not belong here. It was put here
15 artificially as part of a national effort to produce a
16 weapon that ended a war, and it simply does not belong
17 in this town, and that has been our position from the
18 very, the very first day. It's not ours, it doesn't
19 belong in an area of this population, of this
20 proximity to a river, of this type of climate in terms
21 of rainfall, and it's not ours, therefore, get it out.

22 You and I can't do anything about the natural
23 radiation, but we can do something about the unnatural
24 radiation, which this material represents. It's a
25 very easy question to answer. It does not belong

1 here. It was not meant to be here ever and it's
2 going. That's good news, Ralph. I know there are
3 people in this country that don't like to hear good
4 news. A couple years ago John Stossel on ABC News did
5 a great two-hour segment called, "Why Are We Scaring
6 Ourselves To Death". I firmly believe there's people
7 that don't like good news, who like to scare
8 themselves about every potential news in the world.

9 Folks, for all the bad news we hear, the air
10 we breath, the water we drink, what's happening to
11 life expectancies in this country? Over the last 30,
12 40 years, what has happened to the average life
13 expectancy of the average man and average woman in
14 this country? It's gone up. We're living longer than
15 ever. In fact, you know what the largest growing
16 segment of our population is? People over 85. Now,
17 in Russia it's the opposite. The life expectancy has
18 been going down. We're leading longer and healthier
19 lives to the point where our biggest problem is how
20 are we going to take care of the people over 85. It's
21 leaving. We're continuing to work on the problem
22 until all the sites are cleaned up. I will be able to
23 rest comfortably. I live in this community. I have
24 three children. I plan to live in this community all
25 my life. I think we're doing our job, and when it's

1 all said and done, I'll be able to sleep at night and
2 say we got rid of it.

3 MR. KRIEGER: Congratulations on the
4 Russian thing. That wouldn't happen to have anything
5 to do with Chernobyl, would it?

6 MR. CALABRESE: No. The average life
7 expectancy of the Russians was going down way before
8 that.

9 MS. BAZINAT: Ann Bazinat, B-A-Z-I-N-A-T,
10 and I've lived in this community my entire life, not
11 just in this neighborhood, but in the same house. My
12 father was a chemical engineer at Union Carbide Linde
13 Division for many years beginning in the 1950's while
14 a student at Erie Tech. The house my family lives in
15 was built by my parents in 1961. My father was an
16 intelligent, knowledgeable individual, as his
17 co-workers can attest to, and I know if he ever felt
18 he were endangering our health by having us live near
19 the Linde facility he would have relocated us in a
20 second.

21 I personally worked in the environmental lab
22 industry. I've spoken with acquaintances at
23 government agencies and even a certified safety
24 professional regarding the Linde Site, my homes
25 proximity to the site and possible health risks. I

1 trust the opinions of these professional and have
2 decided to support the proposed plans with its current
3 cleanup levels and institutional controls. In the
4 perfect world we would have all the background levels
5 brought down. This is not possible. Contamination on
6 a daily basis for extended periods -- I am saying that
7 I believe as much of the material as possible should
8 be removed to bring the contamination levels down to
9 acceptable levels as prescribed by government
10 regulation. I also believe that should these
11 acceptable levels be adjusted downward in the future
12 by the government, additional work may need to be done
13 to comply with the modified regulations.

14 People have spoken about health issues and
15 how they feel that they may be related to the
16 materials and biproduct made during the early 40's at
17 this site and that these materials may be making their
18 way into our neighborhood. I've looked at different
19 reports issued over the years. An interesting report
20 is the base risk assessment report. Nothing that I
21 have seen leads me to be concerned that dangerous
22 materials have migrated from the site to our basements
23 or our yards. If people are concerned about their
24 levels, different government agencies have programs
25 for radon testing in your home, for eight bucks you

1 can buy a radon test kit and maybe give yourself a
2 piece of mind. I'm currently doing that, but I'm
3 doing it because I'm afraid of the naturally occurring
4 radon, not radon that has come from the site. Thank
5 you.

6 MS. KREUSCH: Thank you.

7 LIEUTENANT COLONEL MARK FEIERSTEIN: Okay.
8 That concludes the formal portion of this. We will
9 remain afterwards for as long as you'd like us to for
10 informal questions and answers.

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C E R T I F I C A T I O N

I, CHERILYNN M. PARENT, do hereby certify
that the forgoing transcript is a true, complete and
accurate transcription of my stenotype notes, done
under my supervision, and done to the best of my
ability.

I further certify that I am in no way related
to any of the parties and have no interest in the
outcome of said cause.

I HAVE HEREUNTO SET MY HAND, this 9th day of
June 1999.

Cherilynn M. Parent

ATTACHMENT 3

GEORGE M. MELROSE COMMENTS

April 7, 1999

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2919 Delaware Avenue • Kenmore, New York 14217 • (716) 877-8800

Commission for
Conservation of the Environment

GEORGE B. MELROSE
Chairman

April 7, 1999

Major Kaly M. Eastman
Acting Commander
U.S. Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 142074207-3199

Re: Proposed Remedial Action Plan for the Linde Site

Gentlemen:

The Environment Commission of the Town of Tonawanda has been actively involved with the remediation of the Tonawanda FUSRAP site for over twenty years. We are pleased with the actions taken by the Corps since its assignment of remediation responsibility. The professionalism, clarity of action, public involvement, accountability and speed of your activities has been commendable. We are particularly encouraged that the Ashland II site is nearing closure and that plans are underway for Linde, Ashland I and, soon we hope, for Seaway.

We have a primary concern regarding the proposed plan for Linde (Praxair) site. Original studies proposed a cleanup criteria of 60 pico curies/gm for uranium and it is our understanding that both building 14 and the soil pile were remediated to that level under Army jurisdiction. The proposed plan now offers a level of 600 pc/gm, a ten-fold increase. We have seen no rationale for such an increase.


U.S. Army Corps of Engineers
April 7, 1999
Page 2

3. We believe that the site should be remediated to a level which will permit performance of the designated uses for the site to be carried out within acceptable standards for health and safety. We, therefore, question the acceptability of the 600 level.

These comments per resolution passed at the March 30, 1999 meeting of the Commission.

Please continue to keep us informed of activities on the Tonawanda FUSRAP site properties.

Very truly yours,



George B. Helrose
Chairman

GBM/sc

c.c. Supervisor Carl Calabrese
Councilman Jeanne Bartlo
Councilman Raymond Sinclair
Richard Tobe
Paul Krantz
Thomas M. Dugan
Environment Commission

ATTACHMENT 4

DENNIS A. CONROY COMMENTS

April 16, 1999

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Praxair, Inc.
Post Office Box 44
Tonawanda, NY 14150-7891
Tel (716) 879-2000

April 16, 1999

U.S. Army Corp of Engineers
1776 Niagara St.
Buffalo, New York 14207

Attn: Mr. Ray Pilon

Re: Comments on Proposed Plan for the FUSRAP Former Linde Site

Dear Mr. Pilon:

We have reviewed the document you sent titled "Proposed Plan for the Linde Site Tonawanda, New York," dated March 1999 and are providing the following comments in response.

We have maintained a cooperative relationship to the various agencies and contractors involved in the clean up efforts that were first introduced back in 1988, by the US Dept. of Energy. During all of these discussions over the years, the intent of the clean up was to leave this site with no radiological restrictions. That made sense as we had radiological controls in place since the DOE indicated a need for them back around the late 1970's, until such time in the future when remediation would be performed by the government. The facility was described as "radiological safe" at that time with the work restriction controls that were in place. The major concern however was that in the future, no one could predict what could become of the site and therefore it should be cleaned to a level that would eliminate the need for any controls or restrictions.

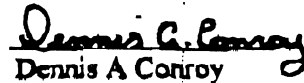
During all of the discussions with the DOE along with presentations made to us, the clean-up criteria was established at 60 pico curies per gram for uranium. This criteria was continued with the clean-up activities of the soil pile and sub-surface materials in building 14 that was managed by the USACE. Earlier documents issued by the USACE have stated that the cleanup guideline for the Tonawanda site for total uranium is 60 pico curies per gram. This level would allow for a margin of safety to ensure we would be under the dose estimate of 10 mrem/yr for most reasonable scenarios and would require no radiological restrictions. It would also provide a margin of safety, if workers were to perform work activity in the soils. As you are aware this is a constant changing facility, with the potential for new construction in areas that currently are contaminated.

Mr. Ray Pilon

Page 2.

Additionally, we requested our consultant, Dr. David Dooley to review and comment on our behalf, the USACE, Technical Memorandum: Linde Site Radiological Assessment, Draft, January 1999. As well as the proposed plan. His comments, which are attached, reflect our concerns as well.

Based on the above, we are demanding that the clean-up criteria for our Linde site be returned to 60 pico curies per gram for uranium. Furthermore, we have sought the assistance of the Coalition Against Nuclear (materials) in Tonawanda to escalate this demand.


Dennis A Conroy
Site Manager

*Radiological and Health Physics Consulting Services*

March 2, 1999

Mr. Tom Dugan
Manager, Health Safety & Environmental
Praxair, Inc.
175 East Park Drive
Tonawanda, NY 14150-7891

Subject: Comments on Listed Reference Documents

Reference: 1) USACE, Technical Memorandum: Linde Site Radiological
Assessment, Draft, January, 1999
2) USACE, Proposed Plan for the Linde Site - Tonawanda, New York,
Draft, February 12, 1999

Dear Mr. Dugan:

Per your request, a review of the listed reference documents has been performed. My specific comment for reference 1 is as follows:

- In general this document has been written to present a "Chinese menu" of risk-based and dose-based clean-up goals. To date, radiological clean up at the Linde site has been based on a total uranium site-specific standard of 60 pCi/g using DOE Order 5400.5 generic guidance. (See Draft Post-Remedial Action Report for Building 14 at the Linde Site, USACE/OR-416, Volume 1, November 1998). A clean-up level of 60 pCi/g equates to a risk of about $1E-06$ which is at the lower end of the CERCLA risk range and is therefore acceptable under CERCLA guidance and succeeds in limiting future lifetime excess cancer risk to the maximum extent possible. Another added feature of this clean-up level is that no addition barriers such as additional ground cover are needed to meet the $1E-06$ risk level.
- The authors of this document seem to be at odds in trying to decide whether to use a risk-based or a dose-based approach. Both possibilities are left open without regard to historical precedence to the clean-up work performed to date at the site. For example, they cite an EPA document OSWER Directive 9200.4-18 which "indicated that a lifetime excess cancer risk of $3E-04$ is protective". Calculations for the residual concentrations for the two exposure scenarios considered in section 3 shows the residual concentrations to be 19,000 and 100,000 pCi/g total uranium, respectively corresponding to a $3E-4$ risk level. From a dose-based perspective 19,000 pCi/g and 100,000 pCi/g equate to 300 mrem/yr and 575 mrem/yr for the two scenarios considered, respectively. These concentrations may be considered protective under

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98-174.010

Mr. Tom Dugan
Page 2

March 2, 1999

EPA risk-based guidance but they are completely out of line with NRC and DOE (100 mrem/yr), EPA (25 mrem/yr) and NYSDEC (10 mrem/yr) dose-based guidance values.

- 4.5
- Section 3.2.1 states that "If a dose limit is established at the site a sum-of-the-fractions approach must be used to assure that the total dose from exposure to all radionuclides is below the specified limits (s)". The NYSDEC TAGM 4003 has established a dose-based limit of 10 mrem for the site. If 600 pCi/g total uranium were used as a clean-up value, this equates to an annual dose of approximately 9.5 mrem. Under the sum-of-the-fractions rule for a dose-based limit of 10 mrem, all other constituent nuclides of concern, namely Ra-226, Th-230 and Th-232 collectively could not exceed 0.5 mrem. In realistic terms this would be extremely difficult to meet because 0.5 mrem would equate to concentrations within a few percent of the normal background levels. Therefore, these constituents would have to be at or below measured background for the clean-up to proceed. At 60 pCi/g total uranium sufficient leeway exists such that the other constituents could contribute to the total dose yet the 10 mrem/yr criterion would still be met. The sum-of-the-fractions rule for the site would be based on the data provided in Table 3-3 of reference 1 as follows with the U total residual concentration modified to 60 pCi/g:

$$\frac{[Ra-226] - BKG}{5.7} + \frac{[Th-230] - BKG}{16} + \frac{[Th-232] - BKG}{3.9} + \frac{[U total] - BKG}{60} \leq 1$$

*[Ra-226] refers to the measured concentration of Ra-226. The site background concentration "BKG" is subtracted from this value before being divided by the nuclide concentration for 10 mrem for the remaining nuclides. Total uranium at 60 pCi/g would add about 1 mrem to the annual dose.

- 4.6
- On page 9 in the "Conclusions" section it is not certain what purpose is served by relating the uranium chemical toxicity when it is 70 times higher than the existing dose-based clean-up limit of 60 pCi/g.

My comments on reference 2 are as follows:

- 4.7
- USACE proposes that Alternative 4, Excavation, Decontamination and Institutional Controls be adopted as the final remedial action for the Linde Site. The proposed plan does discuss the prior activity at the site but it carefully omits discussion of the guidelines used for these previous actions.
 - 4.8 In §2.1 the injection wells are discussed. I concur with the assessment made that no remediation is required for this waste.

Mr. Tom Dugan
Page 3

March 2, 1999

- 4.9 —
— 4.10 —
— 4.11 —
— 4.12 —
- §3, 1st ¶, acronym "BRA" not defined nor previously defined in preceding text. First occurrence of use should be written out as "Baseline Risk Assessment (BRA)". Similarly, the "National Contingency Plan (NCP)" is not defined upon first use.
 - §3.1, 2nd ¶ discusses the Reasonable Maximum Exposure (RME) scenario be applied to the risk estimates. It is not apparent in §2.2 of reference 1 that RME scenario's are used since there is no mention of this in that section or any other section of the document.
 - §4 on ARARs does not address the historical aspects of the site clean-up and its relation to the new proposed clean-up criteria. How is 40 CFR 192, a regulation adopted in the early 1980's, more responsive to site clean-up needs than DOE Orders specifically written to address FUSRAP remedial actions such as DOE Order 5400.5? Also why isn't the NYSDEC TAGM 4003 considered in this section?
 - As in reference 1 the author refers to the previous clean-up action and clean-up criteria used to date at the Linde site but they are very careful so as not to state the actual number.

In summary, reference 1 appears to be an attempt to justify a higher clean-up level through several comparisons of concentrations of total uranium using both dose-based and risk-based approaches which from a uranium residual concentration are at odds. The risk-based approach total U concentrations far exceed those of the dose-based approach and therefore make a dose-based approach of 10 mrem/yr (at 629 pCi/U) seem almost innocuous. However, neither reference 1 nor reference 2 discusses that the soil level of 60 pCi/g total uranium was used for the previous site work.

Should you have any questions please contact me at your convenience.

Very truly yours,

MJW Corporation Inc.



David A. Dooley, Ph.D., CHP
President

DAD:lcc

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ATTACHMENT 5

RICHARD M. TOBE COMMENTS

April 20, 1999

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County of Erie

DENNIS T. GORSKI
COUNTY EXECUTIVE

PHONE: 716-858-8500

April 20, 1999

LTC Mark D. Feierstein
District Engineer and Commander
US Army Corps of Engineers
Buffalo District
1776 Niagara Street
Buffalo, NY 14207-3199

Dear Colonel Feierstein: *Mark*

I am writing on behalf of CANiT to officially request a postponement of the public hearing scheduled for April 22, 1999 on the *Proposed Plan for the FUSRAP Former Linde Site* and an extension for an additional thirty days for the public comment period.

As you know, the Proposed Plan For the Linde Site was released on March 28, 1999. The public hearing has been scheduled for 18 work days later, with the close of comments occurring 3 work days thereafter. During the comment period, the Easter and Passover holidays occurred and the US Congress, the Erie County Legislature and the New York State Legislature were in recess, and a number of CANiT members were unavailable to meet to discuss these very important issues.

As you also know, the contract with MJW, CANiT's technical consultant expired on April 1, three days after the release of the Proposed Plan. As a result, MJW has not been able to undertake a review and to issue a report to CANiT on the technical aspects of the Proposed Plan. As the Plan raises a number of very troubling issues, the inability of CANiT to officially and fully consult with its advisors has made it virtually impossible to prepare complete comments. We understand from a telephone call today from your staff that MJW has been reinstated as of today. We look forward to confirmation of this in writing.

LTC Mark D. Feierstein
April 20, 1999
Page Two

-53-52-
Finally, we are very concerned with the standards proposed to be used for this action and the methods proposed to be employed to insure a proper remediation. Our concerns go to the very heart of the proposed plan. We question whether the clean up standards are sufficient to protect public health and the environment and whether our goal of unrestricted use of the land consistent with the Town of Tonawanda's master plan can be achieved. These concerns are of such a magnitude that we believe more time must be provided. The consequences of an incorrect decision are so significant that time spent now very well could avoid long and costly delays in the future.

We look forward to your response.

Very truly yours,



RICHARD M. TOBE
Chair, CANIT

RMT:lt

ATTACHMENT 6

JOHN J. LaFALCE COMMENTS

April 22, 1999

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JOHN J. LAFALCE
17TH DISTRICT, NEW YORK

1710 N. BAYVIEW BLVD.
WEST HAVEN, CT 06615-3741
(203) 736-3231

www.house.gov/jlafalce

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1710 N. BAYVIEW BLVD.
WEST HAVEN, CT 06615-3741
(203) 736-3231

Congress of the United States
House of Representatives
Washington, DC 20515-3229

April 22, 1999

Lt. Col. Mark D. Feierstein
U.S. Army Commanding
Department of the Army
Buffalo District Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Dear Lt. Col. Feierstein:

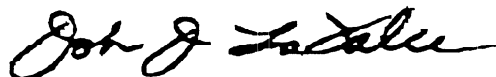
I am in receipt of the Proposed Plan for Remedial Action at the former Linda Site. While I have not had enough time to discuss the full range of implications that would result from the implementation of this proposed plan with CANIT's technical consultant, I do have grave immediate concerns about the proposed remedial action criteria of 600 pCi/g of Uranium-238. I am deeply disturbed by the prospect of increasing the criteria from the agreed upon 60pCi/g which is currently being used for remedial activities.

As you know, my number one concern throughout this multi-stage FUSRAP program has been the absolute protection of the health and safety of the residents and the environment. I insist that NO action be taken that compromises the public health.

I want assurance from the U.S. Army Corps of Engineers that any proposed remedial action plan meet with full consensus of the areas stakeholders. We have labored long and hard to achieve agreement by all parties, regarding Tonawanda FUSRAP remediation and any future cleanup activities should follow the same rigorous consensus building. The employees of Praxair, the residents of Tonawanda and future generations deserve nothing less.

Thank you for agreeing to my request for an extension of the public comment period. I look forward to a response to my concerns.

Sincerely,



JOHN J. LAFALCE
Member of Congress

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ATTACHMENT 7

MR. & MRS. RAYMOND CHAPMAN COMMENTS
April 28, 1999

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APR 28 1999



COMMENTS

Proposed Plan for the Linde Site

**US Army Corps
of Engineers.**

Written comments will be accepted if postmarked by May 27, 1999

9 The have lived at 844 Riverview Blvd for
49 yrs. Raymond Chapman my husband
have both had cancer.
The are concerned of the leaching
of the Uranium into our soil as well
as air borne particles gardens etc.
Our children played near the lake
that was filled in. It was there
covering up something in the lake.
Our daughter said she seen deformed
and death fish in the lake.
Isn't this also a health hazard
for children attending Horner School??
It would be a good idea if they
would purchase homes in this neighborhood
near this Linde Site for health reasons.
They way there given permission to build
near such a hazardous location??
Money Money?? Another "Love Canal"
How about testing our soil near our homes??

If you would like to receive a copy of the Responsiveness Summary when the
Record of Decision is reached, or would like to be added to our mailing list,

please fill in your: **Name:** Mr & Mrs Raymond E. Chapman

Address: 844 Riverview Blvd
Tonawanda, N.Y.
14150-7828

Responsiveness Summary? Yes ☒

Mailing List? Yes ☒

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ATTACHMENT 8

PAUL J. MERGES COMMENTS

April 30, 1999

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New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bureau of Radiation & Hazardous Materials
50 Wolf Road, Albany, New York 12233-7255
518-457-9253 FAX 518-457-9240



John P. Cahill
Commissioner

59 MAY -5 PM 12:14

EUSRAP

Major Kally L. Eastman
Acting Commander
U.S. Army Engineering District, Buffalo District
1776 Niagara Street
Buffalo, New York 14207-3199

APR 30 1999

Dear Major Eastman:

Re: Proposed Plan for the Linde Site, Tonawanda, New York (March, 1999)

The New York State Department of Environmental Conservation has reviewed the United States Army Corps of Engineers' (USACE) Proposed Plan for the Linde Site, Tonawanda, New York.

Pursuant to CERCLA, the Atomic Energy Act, and the New York State Environmental Conservation Law, we do not concur with the proposed plan as currently written. The major problems include the following: the proposed uranium cleanup criterion of 600 pCi/g is unacceptable; the Corps has not demonstrated that the 15 pCi/g radium-226 criterion is justified; the proposed plan does not include the use of an Independent Verification Contractor; and the methods the Corps plans to use to determine compliance with the cleanup criteria are not defined. Our specific comments are enclosed.

If you have any questions or need further information, please contact John Mitchell of this Bureau at (518) 457-2225.

Sincerely,

Paul J. Merges, Ph.D.
Director, Bureau of Radiation & Hazardous Site Mgt.
Division of Solid & Hazardous Materials

cc: Lt. Col. M. Feierstein, USACE
D. White, USNRC
S. Page, US EPA
R. Aldrich, NYSDOL
K. Rimawi, NYSDOH
D. Conroy, Praxair, Inc.
P. Kranz, Erie County

New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bureau of Radiation & Hazardous Site Management

Comments on the
Proposed Plan for the Linde Site, Tonawanda, New York (March 1999)

April 30, 1999

Cleanup Criteria

1. This Department's *Cleanup Guideline for Soils Contaminated with Radioactive Materials*, Division of Solid & Hazardous Materials Technical Administrative Guidance Memorandum 4003 ("TAGM 4003") should be in the category of "To Be Considered" when setting cleanup criteria for sites in New York State. It is one of the documents by which this Department judges the adequacy of proposed cleanup criteria.
2. One principle of TAGM 4003 is that radiation doses are to be assessed under "reasonable scenarios for current and plausible future uses of the land." We agree with the Corps that the reasonable scenario for current use of the Linde site is industrial or commercial, but we cannot agree that industrial is the only plausible use of the land in the future. As we stated in our March 10, 1999 letter to Mr. Raymond Pylon on the *Draft Technical Memorandum Linde Site Radiological Assessment, Tonawanda, New York*, we do not agree with the proposed future use of the Linde Site as discussed in that document, or in the proposed plan. The fact that the site has been industrial for the past 60 years does not assure that it will not be put to residential use sometime in the future. Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a reasonable maximum exposure scenario should be assumed and cleanup goals set accordingly to ensure protectiveness, using best professional judgement. We believe that future uses of this property over the next 1,000 years could easily be of the residential nature (DOE had conservatively assumed a resident subsistent farmer scenario). Therefore, the USACE should model and discuss this scenario. Otherwise, it is difficult to conclude that the proposed alternative will meet the long-term effectiveness criterion of 40 CFR 300.430(e)(3)(iii)(C).
3. This Department questions why the USACE decided to perform another radiological risk assessment at all, since the United States Department of Energy (DOE) had already performed one, which established a uranium cleanup level of 60 picocuries per gram (pCi/g). That criterion met two important objectives, doses calculated under the residential scenario (conservatively modeled as the resident farmer scenario) and the application of the ALARA (As Low As Reasonably Achievable) principle. All of the soil remedial efforts at the Linde Site performed to date have been undertaken to meet this

cleanup criterion. The Corps has not provided a justification for decontaminating the rest of the site to a less protective standard.

- 8.4 4. The proposed plan includes a cleanup criterion for total uranium (natural uranium) of 600 pCi/g, which is about 286 pCi/g of U-238, 301 pCi/g of U-234, and 13 pCi/g of U-235. Uranium and thorium in concentrations greater than 0.05% by weight are subject to licensing under the federal Atomic Energy Act, 10 CFR 40, and Agreement State laws and regulations. For U-238, a concentration of 0.05% by weight is approximately equal to an activity concentration of 167 pCi/g. We cannot agree to a cleanup criterion that could theoretically result in leaving on site radioactive material that would require a radioactive materials license. Such a cleanup criterion is not consistent with the goals of FUSRAP, nor is it acceptable to this Department. While the US Nuclear Regulatory Commission is currently declining to regulate the 11(e)2 by-product material on this site, to our knowledge, it has not yet exempted any source material that the Corps may leave behind for the landowner to possess.
- 8.5 5. This Department would like to point out to the USACE that a cleanup criterion is not a below regulatory concern level. Licensed radioactive material is always licensed material unless it is disposed of under the radioactive materials laws and regulations. We are unaware of any USACE regulation authorizing licensed radioactive material to be disposed of without consideration of its licensed status. While the Linde wastes are not under a radioactive material license, the "substantive requirements" provision of CERCLA would impose similar constraints. For example, this Department might not approve soils contaminated with hazardous components and containing radionuclides below a cleanup criterion being disposed of at a RCRA C disposal facility in New York State. This fact is important to all parties involved in cleanups which result in higher than background levels of residual radioactive materials remaining onsite.
- 8.6 6. The preferred alternative presented in the proposed plan includes meeting the radium-226 standards in Subpart B of 40 CFR Part 192 (i.e., 5 pCi/g in the top 15 cm of soil and 15 pCi/g in any 15-cm layer below the top 15 cm). However, the proposed plan does not demonstrate that the 15 pCi/g criterion is appropriate. On February 12, 1998, the US Environmental Protection Agency issued directive No. 9200.4-25, *Use of Soil Cleanup Criteria in 40 CFR Part 192 as Remediation Goals for CERCLA sites*. In that document, the EPA states,

If the contaminants at a site are the same (i.e., radium-226, radium-228, and/or thorium) and the distribution of contamination is similar to that existing at Title I sites as described in 40 CFR Part 192 (i.e., little subsurface contamination from 5 to 30 pCi/g), then the 15 pCi/g standard is a potentially relevant and appropriate requirement for the site. . . . If the radioactive contamination at the site is unlike that at the uranium mill tailings sites regulated

under 40 CFR 192, in that significant subsurface contamination exists at a level between 5 pCi/g to 30 pCi/g, the use of the 15 pCi/g standard is not generally appropriate.

Before the Corps concludes that the 15 pCi/g criterion is appropriate at the Linde site, it should revise the Proposed Plan to address the EPA directive and to demonstrate that the conditions described in the directive are met at that site.

Groundwater Impacts

7. In our March 10, 1989 letter to Mr. Pylon, we informed the USACE that we would like additional time to review the information presented on the impacts of the deep well injections. In the interim, our geologist has reviewed the data. At this time we do not agree with the conclusion that "... groundwater at the Linde Site does not require remediation," as expressed in the last paragraph of section 2.1, *Description of the Impacted Property*, on page 6. We recommend that a limited extension of the monitoring within the contact zone aquifer be performed which would be designed (1) to provide a reasonable definition on the extent of the zone of disposal and the zone of contamination and (2) to characterize the nature of contamination within these two zones. Despite the statements made in the reports that the levels of contamination seen to date, and the levels of activity in the injected wastewater itself, were consistently below regulatory standards, given the tremendous volume of material injected we need to be vigilant to insure that there are not some areas that contain unexpectedly high levels of activity.

Institutional Control

8. This Department would like to see documentation that the United States Department of Energy (DOE) has concurred with the proposed cleanup level and the use of institutional control for this site. Since the USACE turns over to the DOE the responsibility for long term monitoring two years after the completion of brown fielded sites cleanup, we would like to make sure DOE agrees with this approach and recognizes its future obligation. When exposure controls are used, restrictions by USACE, and later DOE, should be employed to ensure that the controls remain in place, that they remain protective, and that they are effective in preventing exposure for as long as the radionuclides present at the site remain hazardous. Since the Linde site radionuclides have very long half-lives, DOE's acceptance of this role and potential liability should be obtained and documentation of it provided to us.
9. In addition, the plan should state how institutional controls will be applied. Specifically, will the USACE require Praxair, Inc. to place a deed notation or deed restriction on their deed in order to assure institutional control? If so, USACE should identify what law and regulation authorizes them to do so. The USACE should state whether it is prepared to

address issues regarding the taking of property, which could result from requiring institutional control and thereby reducing the value of the property and limiting the landowner's ability to use it.

Vicinity Properties

10. Also, since the Town of Tonawanda landfill is a vicinity property to this site, it should be added to the listing on page 4, the first paragraph of section 2, *Site Background*, and some discussion to the fact that this site will be addressed under a separate record of decision at a later date should be added.

Independent Verification Contractor

11. The use of independent verification contractors is a routine practice by other federal radiological agencies, such as the Department of Energy and the Nuclear Regulatory Commission. As such, New York State expects the USACE to do likewise at the Linde site. It is very disappointing that a federal agency remediating radiological contamination in New York State's environment is unwilling to subject its cleanup efforts to peer review, as would occur if the USACE employed an independent verification contractor. It is especially unfortunate when other federal radiological agencies are willing to do so when they are involved in similar cleanups in this State.

Application of Cleanup Criteria

12. This document does not discuss what mechanism will be used to determine compliance with the cleanup level. While the averaging over 100 m² areas is discussed, more recently, at site cleanups the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) techniques are being applied. The document needs to address how a successful site cleanup will be determined.
13. With regard to Ra-226 concentrations averaged over 100 m² as specified in Subpart B of 40 CFR Part 192 (and potentially for uranium) we believe that averaging is allowable, as long as the upper end is bounded by some hot spot criteria. It should be noted for the record that this Department does not accept the derived concentration guideline level-elevated measurement comparison as derived by MARSSIM. Instead, the hot spot criterion should be some small multiple of the cleanup criteria. In addition, if the 100 m² areas are different than the MARSSIM survey units (since MARSSIM Class 1 survey units can be up to 2,000 m²), the 100 m² units should be defined at the same time the MARSSIM final status survey units are established, to prevent manipulation of the areas so that an area passes. In addition, the MARSSIM grid should be tied into the UTM grid system to allow replication in the future, if necessary.

14. This document needs to discuss the sum of the fractions rule. While individual standards will have been established for each radionuclide of concern (which meet an acceptable risk base exposure level for that individual radionuclide), a discussion on how the presence of multiple radionuclides will be evaluated should be included. The acceptable method the Department endorses is the sum of the fraction rule.

Definition of MED

15. Please note that the correct term for the abbreviation MED is "Manhattan Engineer District," not "Manhattan Engineering District," as is currently being used in many USACE documents.

ATTACHMENT 9

DENNIS A. CONROY COMMENTS
June 10, 1999

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Praxair, Inc.
Post Office Box 44
Tonawanda, NY 14150-7891
Tel (716) 879-2000

June 10, 1999

U.S. Army Corps of Engineers
1776 Niagara St.
Buffalo, New York 14207

Attn: Mr. Ray Pilon

Re: Comments on Proposed Plan for the FUSRAP Former Linde Site

Dear Mr. Pilon:

We have reviewed the document you sent titled "Proposed Plan for the Linde Site Tonawanda, New York" dated March 1999 and are providing the following additional comments in response.

9.1 - Praxair feels that "Alternative 4, Excavation, Decontamination and Institutional Controls" is unacceptable and are requesting that "Alternative 2", including the demolition and offsite disposal of Building 14 be implemented.

Since the fall of 1995, Praxair has maintained a cooperative relationship with the various agencies and contractors involved in the clean up of our Tonawanda site. With regard to Building 14, we have suspended and moved six critical Research and Development operations to accommodate remediation efforts. In terms of global competitive advantage, no price tag can be put upon this disruption. In terms of cash flow, we have invested \$1.5 million in infrastructure improvements closely following this decontamination. Both of these actions were taken in the anticipation that we would receive Building 14 back with no radiological restrictions.

9.2 - Your "Alternative 4" would leave us with institutional controls and deed restrictions on Building 14. Our R&D activities, by their very nature, require a continual need for maintenance, building modification and rearrangement. Even minor activities such as mounting new experimental equipment to the walls and running new utility lines will be difficult under institutional controls. For Building 14 this translates into an endless need for Corps of Engineer involvement in the form of health physicist support and additional remediation as new contamination is uncovered. We find it difficult to understand why, of the four contaminated locations in the Town of Tonawanda: Praxair, Ashland 1, Ashland 2 and Seaway, our facility was the only site forced to work around the remediation and will be the only site left with a radiological restriction.

9.3
We have also considered an Alternative 7 which would entail continued remediation in Building 14 to achieve the free release of that structure. It is the opinion of our senior management that such a course of action would result in continued disruption and an uncertainty in scope, schedule, cost and ultimate outcome, which would prove intolerable to all parties, involved in the remediation effort

Accordingly, we urge in the strongest possible terms:

- 9.4
1. The selection of Alternative 2, Complete Excavation and Decontamination with Offsite Disposal.
2. An independent appraisal and compensation for Buildings 14, 57, 67, 73, 73B, 75 and 76. (We were led to believe that these appraisals were imminent for the past several weeks.)
3. Reimbursement of our \$1.5 million expenditures for Building 14 infrastructure improvements.
4. Reimbursement of the cost to move our six R&D operations from Building 14 to a new structure.

9.5
We are very pleased that the Corps of Engineers, CANIT and Praxair, Inc. are in alignment on post-remediation dose criteria. We simply must request, at this time, that the agreed upon criteria be applied uniformly to all contaminated locations in the Town of Tonawanda and that Praxair be left to run its business without the legacy and uncertainty of institutional controls.

Sincerely,

Dennis A. Conroy
Dennis A. Conroy
Site Manager

ATTACHMENT 10

LEONORE LAMBERT COMMENTS

June 10, 1999

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**LEAGUE
OF
WOMEN
VOTERS**



1272 Delaware Ave., Buffalo, NY 14209-2401

Tel: 716-884-3550

June 10, 1999

Lt. Col. Mark D. Feierstein
U.S. Army Corps of Engineers
FUSRAP Information Center
1776 Niagara Street
Buffalo, NY 14207

Dear Colonel Feierstein,

Re: Proposed Plan for cleanup of the former Linde site, Tonawanda

Thank you for extending the response time, and for the extra meeting held at the Holmes Elementary School June 3 to further explain your plan.

Having attended the April 27 presentation to the CANIT members, we hoped that the reaction of the public and some officials would prompt your department to come up with a more acceptable alternative for cleaning up the radioactive waste at the site. We were deeply disappointed that the plan was not changed to be more protective of human health and safety.

Your plan is inadequate as a cleanup except for very restricted use, and, since it does not include institutional controls, we are concerned that the life of the radioactive material on site will be much longer than community memory of its existence.

We understand that by working under the CERCLA (Superfund) law, you are allowed a great deal of latitude in cleanup, but we had hoped you would come closer to DOE's plans and NRC's rule. We also agree with the New York Department of Environmental Conservation request that you employ an independent verification contractor.

Enclosed are a few comments which we have prepared for your consideration.

Thank you.

Sincerely,

Lyle Toohey, President

Leonore Lambert, rad waste observer



June 10, 1999
LWVGBA

Comments on USACE cleanup plan for former Linde site, Tonawanda

Use of an independent verification contractor (IVC):

We note the New York State DEC's remarks suggesting that the use of an IVC is "routine practice by other federal radiological agencies, such as the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission". We are disappointed that you have chosen not to comply with their numerous reminders of what appears to be logical procedure. We note that many others at the public meeting questioned your choice as well.

Uranium vs other materials:

1. The fact that uranium is not addressed with the other radionuclides in certain regulations, is more a gap in the law than a statement of acceptability as a non-threat to human health and safety. Uranium 238 has a half-life in the millions of years.
2. The decay chain of uranium includes thorium, radium and radon gas, at which point it is much more easily ingested by humans. However, uranium is the source and therefore a continual threat.

How 600 becomes 60:

These are some ways we presume this might be accomplished:

1. There could be a hot spot left at 600 with surrounding land having little or nothing. By averaging, as your presentation stated, "a soil volume of 2000 square meters by 3 meters thick", one could conclude that the average is 60 or lower. Place a house on the hot spot years from now, and residents will still get 600.
2. Mix, blend, spread the worst around to ensure an average of 60.
3. Take out everything over 600 and add clean soil to bring the average down to 60.

In all cases, it will still be a radioactive site.

The DOE plan called for getting the levels down to 60 in the first place. This would leave the former Linde site as "clean" as the River Road sites. Neither one would be unrestricted for years to come, but they would be usable for certain activities.

CERCLA vs NRC

The Superfund legislation (CERCLA) uses risk rather than firm criteria to make decisions. The 600 choice meets the uranium recovery rule but allows a great deal of contamination for years to come. Meantime the Nuclear Regulatory Commission's policy to clean Uranium down to 5 pCi/g would leave no decay problem for the future. Unfortunately the NRC has not been part of the process here

Title 10 CFR Part 61, NRC's low-level waste disposal siting regulation, was promulgated with wide public support. The regulation assumes that institutional control cannot be considered reliable beyond 100 years.

CERCLA calls for a review every five years, and is limited to 200 years, nowhere near the life of the material in question. Furthermore, under CERCLA the people are denied protection that would be provided under NEPA, including the right to civil litigation and judicial review. We find this troubling.

Excavation and removal:

Your plans call for partial excavation and removal; partial in the sense of the criteria being used (leaving up to 600 pCi/g) which are well beyond acceptable levels, and also in declaring the soil beneath Building 14 inaccessible, rather than removing the building and the contamination beneath it.

We wish you would make that clear to the media, since the public impression is that a full cleanup is planned.

At the last meeting you announced an arrangement with Praxair to "clean" the building. We suspect that demolition will be necessary in the long run, in which case the soil below would be accessible. We hope that at that point you intend to remove it.

Background radiation:

1. It is true that there is natural radioactivity in many places, but usually not much more than the 1 pCi/gr background radiation we might expect in the soil. Geology plays a part also, so that certain rock is more likely to contain radioactive material. The rock formation in Tonawanda is not such a type.

2. It might be more accurate to check other similar formations to get a probable natural background level.

3. At a recent presentation someone asked how the Army decides on the amount of background radiation naturally occurring in the area. The reply: we go upwind. Wind in the area shifts directions many times a day, but, assuming it is primarily from the west or south, our map shows only the river. When it comes from the east, it could be passing over the Linde site, giving rather high readings as "normal" nearer to the river.

Institutional control:

1. The Army suggests that readings up to 600 pCi/gr (averaged to 60) will be safe "for intended land use". Sixty is still too high for a populated area, already nearby, and there will be no control over population shifts and land use far into the future.

2. Under present laws no one can guarantee that at some point some future government will not forget, as happened in a relatively short time in the case of Love Canal, and give permission for housing or a school on the site.

3. Institutional control will be necessary for reasonable future use of the site unless it is cleaned well below 60.

The January 1999 EPA Update on Federal Facility Cleanup and Reuse suggests several steps that might be taken to solve problems of institutional control, such as: restrictions written into documents, a single unified registry of institutional controls, requirements to consult the registry along with public access to it, long-term auditing and enforcement beyond the five-year review mandated by the Superfund law, and property law that ensures that institutional controls "run with the land" forever, so that sites may not be "closed out" until there is no longer a need for limits to protect public health and natural ecosystems.

The EPA further states that, even if all these steps are taken and backed with long-term funding, "institutional controls should still be considered unreliable. Understandably, those responsible for cleanups want to save money and assume restrictions will be effective." The article goes on to say that property owners want to use their land to the fullest extent, and that others may want to enter restricted land at some point. EPA concludes: "As time passes, there is a likelihood that even the best laid controls will be breached."

9. We are concerned about the possibility that Fraxair will leave and
10. that no one will want to buy a contaminated site; also that the
state of New York will have to take over and pay for any further
remediation.

We believe that the federal government is responsible. The problem began with the secret program to build the bomb, but that was over fifty years ago. We would like to think that the Army, as an arm of the federal government, will do their duty to remove the material as much as possible and protect the citizens of the future. However, we realize it is the will of Congress that is necessary to come up with funding, both for cleanup and for regulatory oversight such as should be handled by the NRC.

The people are entitled to protection of their environment and of human health and safety. We do not believe the cleanup plans for Tonawanda achieve that goal.

ATTACHMENT 11

MAUREEN F. LEARY COMMENTS

June 11, 1999

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STATE OF NEW YORK
OFFICE OF THE ATTORNEY GENERAL

ELLIOT SPITZER
Attorney General

PETER LEHNER
Environmental Protection Bureau

BY TELEFAX AND OVERNIGHT MAIL

June 11, 1999

Major Kally L. Eastman
Acting Commander
United States Army Engineering District
1776 Niagara Street
Buffalo, New York 14207-3199

Re: Proposed Plan, Linde Site, Tonawanda, New York (March, 1999)

Dear Major Eastman:

Kindly accept the following comments on behalf of the State of New York with respect to the March 1999 Remedial Plan for the Linde radioactive waste site located in Tonawanda, New York proposed by the United States Army Corps of Engineers ("USACE"). These comments are submitted on behalf of the State of New York and will supplement the April 30, 1999 comments submitted by the New York State Department Environmental Conservation ("DEC"). We understand that the public comment period for the Linde Plan has been extended until today, June 11, 1999.

The Energy and Water Development Appropriations Act of 1999 ("1999 Act") gave the USACE funding to clean up radiactively contaminated sites operated by the United States "subject to the administrative, procedural, and regulatory provisions" of the Comprehensive Environmental Response, Compensation and Liability Act, ("CERCLA"), 42 U.S.C. § 9601 et seq. and the National Oil and Hazardous Substances Pollution Contingency Plan, ("NCP"), 40 C.F.R. Part 300. According to the USACE's representations to the State, we understand that the remedial actions undertaken at the Linde site are being done pursuant to CERCLA and the underlying regulations set forth in the NCP. The USACE is bound to comply with the express provisions of both.

Even in the absence of the 1999 Act, the provisions of CERCLA and the NCP apply to sites like the Linde site which were

owned and/or operated, under contract or otherwise, by the United States at the time that radioactive and other hazardous substances were released to the environment. See 42 U.S.C. 9607(a). The United States falls within the class of persons responsible and otherwise liable under CERCLA for the remediation of such releases of radioactive or hazardous substances at sites in New York such as Linde. CERCLA contains an express waiver of sovereign immunity as applied to the United States. See 42 U.S.C. § 9620(a)(1).

This letter will set forth the deficiencies in the Linde Plan and recommend significant revisions to the remedial action proposed by the USACE under CERCLA.

FAILURE TO CONSIDER OR ATTAIN STATE AND FEDERAL ARARs

Of primary concern to the State is the absence of any reference in the Linde Plan to the applicable or relevant and appropriate requirements ("ARARs") of New York State law as required by CERCLA Section 121, 42 U.S.C. § 9621. Both CERCLA and the NCP require USACE to consider and apply both State and federal ARARs in proposing to undertake remedial action at the Linde site. New York's ARARs have been identified to the United States repeatedly since CERCLA's enactment.

CERCLA Section 121(d)(2)(A) states in part that "... the remedial action selected ... shall require, at the completion of the remedial action, a level or standard of control for such hazardous substance or pollutant or contaminant which at least attains such [State or federal] legally applicable or relevant and appropriate standard, requirement, criteria or limitation." 42 U.S.C. § 9621(d)(2).

The Linde Plan states without sufficient explanation that 40 C.F.R. Part 192 is not "applicable" but is "relevant and appropriate" to the remedial action at the Linde site (Linde Plan, p. 9). Table 1 of 40 C.F.R. § 192.04 contains maximum concentration limits for radio nuclides in groundwater and appears to be applicable to the remedial action proposed in the Linde Plan. Table 1 identifies a maximum concentration limit of 30 pci/l for combined uranium 234 and uranium 238. The very limited groundwater data for the site indicates the presence of 70 pci/l of uranium, an obvious exceedance of the MCLs contained in 40 C.F.R. § 192.04, Table 1. The Plan fails to identify the violation of this federal groundwater ARAR, and does not propose a waiver of same. Nevertheless, the Plan does not propose any remedial measures for the contaminated groundwater beneath the site although the Plan recognizes that this contamination occurred as a result of the disposal of 55 million gallons of radioactively contaminated waste in on-site injection wells.

The Nuclear Regulatory Commission's ("NRC's") regulations governing the handling and disposal of radioactive waste (see 10 C.F.R. Part 20) are a federal ARAR that the USACE has not considered in the Linde Plan. The USACE's experience with handling radioactive waste materials is relatively limited and, in the absence of NRC oversight, the Plan should at least consider the NRC's regulatory framework for handling and disposal of radioactive waste materials.

Other applicable ARARs are found in State regulations governing radioactive contamination in groundwater. 6 NYCRR Part 703.5 sets forth the State groundwater standards which must be achieved by the remedial action. These promulgated groundwater standards set forth maximum concentration limits of 2 picocuries per liter ("pCi/l") for radium-226, and 5 pCi/l for radium-226 and radium-228 combined. This applicable standard was not identified nor considered in the Linde Plan so there cannot be a showing that it can be attained. The limited groundwater data on the site of only "selected" contaminants also prevents a showing that there will be overall compliance with the State's groundwater standards.

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The Linde Plan fails to identify several other significant State regulations which are applicable or relevant and appropriate to the remedial action at the site. The State regulations for preventing and controlling environmental pollution by radioactive materials in 6 NYCRR Part 380 also must be attained. These regulations govern disposal of radioactive materials and radiation dose limits for members of the public due to the release of radioactive material to the environment. These promulgated State standards should have been identified and considered by the USACE as part of the Linde Plan.

The Linde Plan also fails to identify the State procedural and substantive requirements for conducting remedial actions at sites in New York. See 6 NYCRR Part 375. These regulations define the process and criteria for making remedial decisions. The United States Environmental Protection Agency ("EPA") has a similar guidance document but it too is not mentioned in the Plan.

In addition to the foregoing requirements, there are federal and State criteria and guidance documents that fall within the category of items "to be considered" ("TBC") by the USACE in determining the appropriate remedial action to be undertaken at the Linde site. These TBC's are too numerous to detail here but include: EPA Directive 9200.4-18, "Establishment of Cleanup Levels for CERCLA Sites With Radioactive Contamination;" EPA Directive 9200.4-25, "Soil Cleanup Criteria in 40 C.F.R. Part 192 as Remediation Goals for CERCLA Sites;" Department of Energy ("DOE") Draft Regulations Governing Remedial Actions Undertaken At FUSRAP Sites (10 C.F.R. Part 834); DOE Executive Order 5400.5;

NRC Branch Technical Position on Disposal of Uranium Wastes, 46 Federal Register 205, pp. 52061-63 (1981); DEC's Technical and Administrative Guidance Memoranda ("TAGM") 4003, "Remediation of Soils Containing Radioactive Materials"; and TAGM 4030, "Selection of Remedial Actions at Hazardous Waste Sites."

11.2 CERCLA Section 121(f) requires that the State be given the opportunity to concur in the remedy proposed to be selected at facilities operated by the United States if such remedy fails to attain a legally applicable or relevant and appropriate standard, criteria or requirement. In its April 30, 1999 letter, DEC has advised the USACE that the State does not concur in the remedy for the Linde site that is proposed in the Plan. The remedy proposed in the Plan fails to attain State and federal ARARs since, among other things, there is no consideration of these ARARs (other than 40 C.F.R. § 192), and there is no remedy for groundwater proposed. The Plan must consider and propose to attain State and federal ARARs.

GROUNDWATER REMEDIATION

The March 1999 plan fails to propose any remedy for ground water despite the fact 55 million gallons of radioactively contaminated effluent was injected into wells beneath the site. The Linde Plan bases the USACE decision not to remediate groundwater beneath the site on "one validated ground water sample collected during the remedial investigation in 1992" (Linde Plan, p. 5). This is simply not a sufficient basis to support the USACE's decision not to remediate groundwater. Moreover, Tables 2 and 4 in the "Synopsis of Historical Information on Linde Effluent Injection Wells" contain only "Selected Radio nuclides" and "Select Groundwater Samples" and appear not to contain the complete universe of groundwater data for the site.

11.3 In short, additional data gathered over a more extended period of time and covering a more extensive, rather than "selected," group of analytes is necessary to determine the extent of contamination caused by the injection processes. Such data is necessary in order to support USACE's decision that groundwater need not be remediated.

As set forth above, CERCLA 121(d)(2) requires that the remedial action proposed "shall require ... a level or standard of control ... which at least attains such legally applicable or relevant and appropriate standard, requirement, criteria or limitation." Thus, any radioactive contamination left in groundwater beneath the site must attain the State groundwater standards in 6 NYCRR § 703.4. The Linde Plan does not mention nor propose to meet this State ARAR.

CERCLA Section 121(b)(1) sets forth a preference for remedial actions calling for permanent and significant reduction in the volume, toxicity, and mobility of hazardous substances or contaminants. Section 121(b)(1) requires that the USACE

... shall select a remedial action that is protective of human health and the environment, that is cost effective, and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. If the President [or the USACE] selects a remedial action not appropriate for a preference under this subsection, the President [or the USACE] shall publish an explanation as to why a remedial action involving such reduction was not selected.

42 U.S.C. 9621(b)(1). The Linde Plan fails to propose a permanent and therefore preferred groundwater remedy. Indeed, no groundwater remedy is proposed at all and no meaningful explanation is provided for this decision in the Plan.

CLEANUP OBJECTIVE OF 600 pCi/g FOR SOILS

The Linde Plan proposes a clean up goal of 600 pCi/g ("pCi/g") for residual uranium contamination that will remain at the site. This is a significant departure from the previous clean up goal of 60 pCi/g proposed by the DOE in the November 1993 "Proposed Plan for the Tonawanda Site" and confirmed as the clean up goal by DOE in a November 23, 1993 letter to DEC's Dr. Paul Merges. The USACE has failed to explain or justify this significant departure from DOE's previous proposal.

REMEDIAL ACTIONS UNDERTAKEN PURSUANT TO ENGINEERING EVALUATION/COST ANALYSES

The Plan also fails to identify the remedial measures that have been or will be undertaken pursuant to engineering evaluation/cost analyses ("EE/CA") previously issued by DOE. These EE/CA-driven remedial measures do not appear to constitute emergency removal actions authorized by CERCLA, 42 U.S.C. § 9604. Under the guise of DOE's EE/CAs, the USACE has undertaken remedial actions at the Linde site prior to the formal issuance of a proposed plan or a Record of Decision in violation of the NCP.

It is unclear whether the EE/CA remedial measures by the USACE have been undertaken in compliance with State and federal ARARs and with other regulatory requirements set forth in the CERCLA and the NCP. These EE/CA remedial measures have segmented the required comprehensive approach to the cleanup of the site and were undertaken without being subjected to the requisite

written analysis and decision-making protocol that is an integral part of DEC and, indeed, EPA's remedial action processes.

The Linde Plan fails to disclose the EE/CA remedial actions already undertaken, and fails to identify the impact such measures may have had on the long-term remedial goals for the site.

IMPROPER DISPOSAL OF RADIOACTIVE WASTE

Significantly, the USACE's EE/CA remedial measures have resulted in the improper disposal of radioactive waste material at an unlicensed facility. Specifically, radioactive waste from the Linde site containing greater than .05% by weight (or greater than 339 pCi/g) of total uranium was disposed at the Buttonwillow facility near Bakersfield, California which is not licensed by the NRC or the State of California to take such waste. The waste generated at the Linde site constitutes "byproduct material" as that term is defined in Section 11(e)(2) of the Atomic Energy Act, 42 U.S.C. § 2014(e)(2). This material therefore was not exempt from the NRC's licensing requirements and should have been disposed of at an NRC-licensed facility. The Buttonwillow facility is merely a RCRA Part C facility that is not designed nor permitted to deal with byproduct material. Moreover, neither USACE nor its contractor, Radian International, which handled the radioactive waste, hold an NRC license. The State of California has expressed disapproval of the USACE's improper disposal of Linde waste at a RCRA facility.

Radioactive waste generated from remedial activities at FUSRAP sites historically has been disposed in facilities licensed by the NRC or by agreement states, (such as Envirocare in the State of Utah), or at DOE-operated sites. Federal law mandates disposal of byproduct material at a licensed facility. See Atomic Energy Act, 42 U.S.C. § 2112 and 2114 (prohibiting transfer or receipt of byproduct material at an unlicensed facility). The NRC has long had a policy requiring disposal of byproduct material only at licensed facilities. This policy is based on the goal of protecting public health and the environment. The USACE's disposal of byproduct material from the Linde site is a violation of the AEA and is contrary to long-established NRC policy. See ORNL January 1994, "Health Physics Positions Data Base 190."

REQUISITE STATE AND FEDERAL PERMITS

As you are aware, CERCLA Section 121(e)(1), 42 U.S.C. § 9621(e)(1), contains an exemption for on-site remedial activities from the requirement to obtain State and federal permits. This exemption is expressly contingent upon compliance with CERCLA in selecting and carrying out remedial actions. The USACE's disposal of radioactive waste at a facility that is not licensed

by the NRC to accept such waste constitutes a violation of CERCLA Section 121(d)(3) which provides:

In the case of any removal or remedial action involving the transfer of any hazardous substance or pollutant or contaminant offsite, such hazardous substance or pollutant or contaminant shall only be transferred to a facility which is operating in compliance with ... the Solid Waste Disposal Act (or, where applicable, in compliance with the Toxic Substances Control Act or other applicable Federal law) and all applicable State requirements.

See CERCLA, 42 U.S.C. § 9621(d)(3), (emphasis added). The "applicable federal law" referred to in CERCLA Section 121(d)(3) is the Atomic Energy Act ("AEA") which governs the disposal of byproduct material and other radioactive waste. The AEA Section 81, 42 U.S.C. § 2111, prohibits the transfer or receipt in interstate commerce of any byproduct material unless licensed by the NRC or otherwise authorized under AEA Sections 82 and 84, 42 U.S.C. § 2112 and § 2114. The USACE and its contractors hold no such license or authorization from the NRC.

In light of the USACE's violation of CERCLA in the disposal of radioactive waste from the Linde site, and its failure to recognize the applicable or relevant and appropriate State ARARs, the State believes that the exemption from federal and State permitting requirements provided in CERCLA Section 121(h) simply does not apply to the USACE's activities.

COMMUNITY ACCEPTANCE

The Plan has failed to discuss community acceptance of the proposed remedial action. In fact, there is significant opposition to the remedy proposed. At public meetings on May 27 and June 3, 1999, union officials, citizens' groups, and other public interest organizations and individuals formally expressed opposition to the Plan and questioned the degree of clean up proposed.

The NCP requires consideration of the community's acceptance of a proposed remedial action. The community's opposition to the Linde Plan calls for the USACE to revisit the remedy proposed, particularly with respect to the amount of contamination that will remain in soils and the absence of any proposal to remediate groundwater.

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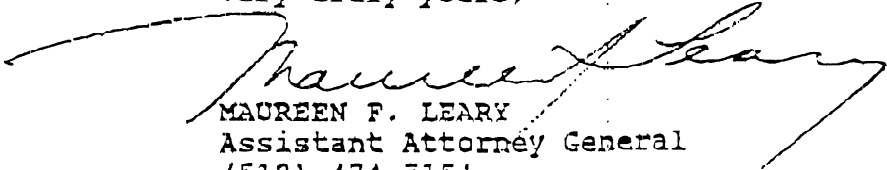
TIMING OF REMEDIATION

This site has been known to the United States for many years yet no comprehensive clean up has been undertaken to date other than limited work pursuant to DOE's EE/CAs. It is imperative that remedial efforts be undertaken forthwith but in a manner that is consistent with both State and federal law. We request that the proposed Plan for the Linda Site be revised within 90 days consistent with the State's comments, including the consideration of all State and federal ARARS. We further request that the USACE target the issuance of a record of decision ("ROD") for the Linda site no later than sixty (60) days from the issuance of the revised Plan, assuming that the State concurs in the Plan. Under this time frame, remedial activities approved by the State may commence before the close of 1999.

The State is aware that remediation of the Linda site has involved a complex and attenuated process dating from the early 1980s. It appears that some progress has been made by the USACE in the last eighteen (18) months. The State does not wish to foster further delays to the remedial activities proceeding as soon as possible. Nevertheless, remedial activities must be undertaken consistent with State and federal law and the cleanup must be protective of public health and the environment. We trust that the USACE will work closely with DEC in the future to assure that both of the foregoing objectives are met.

A representative of the USACE has advised that there may be a complete cessation of remedial efforts at the Linda site if the State voices its concerns regarding the manner in which the USACE has been proceeding. We trust that this is not representative of the USACE's position and that the Plan will be revised consistent with the State's comments so that a ROD can be issued forthwith and the clean up can proceed as soon as possible.

Very truly yours,



MAUREEN F. LEARY
Assistant Attorney General
(518) 474-7154